
(Slip Opinion)

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**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

)	
In re:)	
)	
Newmont Nevada Energy)	
Investment, L.L.C., TS Power Plant)	PSD Appeal No. 05-04
)	
PSD Permit No. AP4911-1349)	
)	

[Decided December 21, 2005]

ORDER DENYING REVIEW

***Before Environmental Appeals Judges Edward E. Reich,
Kathie A. Stein, and Anna L. Wolgast.***

NEWMONT NEVADA ENERGY INVESTMENT, L.L.C.

PSD Appeal No. 05-04

ORDER DENYING REVIEW

Decided December 21, 2005

Syllabus

On May 5, 2005, the Nevada Division of Environmental Protection (“NDEP” or “Division”), acting under a delegation of authority from Region IX of the United States Environmental Protection Agency (“EPA”), issued a federal prevention of significant deterioration (“PSD”) permit to Newmont Nevada Energy Investment, L.L.C. (“NNEI”), pursuant to Clean Air Act § 165, 42 U.S.C. § 7475. The permit authorizes NNEI to construct a new 200-megawatt pulverized coal-fired electric power generating facility, called the “TS Power Plant,” near the Town of Dunphy in Eureka County, Nevada. On June 3, 2005, the Association for Clean Energy (“ACE”) filed a petition for review of the PSD permit pursuant to EPA’s permitting regulations at 40 C.F.R. part 124. In so doing, ACE raised challenges to NDEP’s decisions and responses to comments pertaining to Best Available Control Technology (“BACT”) determinations for emissions of nitrogen oxides (“NO_x”) and particulate matter (“PM”) from the coal-fired boiler and for fugitive dust emissions from various facility components. ACE also challenged a number of permitted emission limits and conditions on the ground that they are not adequately enforceable.

Held: The petition for review of the TS Power Plant PSD permit is denied. The Environmental Appeals Board (“Board”) finds that ACE made no showing of clear error, abuse of discretion, or important policy matter warranting Board review of the permit.

ACE begins its appeal by challenging the NO_x BACT analysis conducted for the pulverized coal-fired steam boiler (“PC boiler”), the largest emissions unit included in the design of the proposed TS Power Plant. NDEP determined that BACT for the boiler is 0.067 pounds per MMBtu (“lb/MMBtu”) on a 24-hour rolling average basis, achieved using selective catalytic reduction (“SCR”) and low-NO_x burners with over-fire air technology. ACE claims that lower NO_x emission limits are achievable for the boiler, and thus the permitted limit does not constitute BACT, for three primary reasons. The Board disagrees, for the following reasons.

- (1) First, ACE argues that in establishing BACT for the PC boiler, which requires consideration of “achievable” emissions limits, NDEP erroneously relied only on actually “achieved” NO_x emissions levels reached by other facilities. NDEP

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responds by noting that it did not take the position that an emissions limit must have been achieved in practice but only that the limit must be achievable in practice on a continuous basis. The Board agrees with NDEP, finding that a permit issuer may appropriately consider, as part of its BACT analysis, the extent to which available data in the record evidence the ability to consistently achieve certain emissions rates or control effectiveness of the selected technology or pollution control method. The Board therefore holds that a permit issuer's rejection of a more stringent emissions limit based on the absence of data showing that the more stringent rate has been consistently achieved over time is not a per se violation of the BACT requirements. The Board further holds that, at the same time, the permit issuer is obliged to adequately explain its rationale for selecting a less stringent emissions limit, and that rationale must be appropriate in light of all evidence in the record.

- (2) Second, ACE contends that during the public comment period on the draft PSD permit, it provided numerous examples of BACT determinations for other facilities showing that lower NO_x limits are achievable. ACE argues that NDEP failed to adequately consider and respond to these comments and therefore failed to reach a valid NO_x BACT result. After examining in detail all six examples brought forward on appeal, the Board finds no clear error or other reason for granting review of the permit on the basis of NDEP's treatment of these examples. In each instance, the Board holds that ACE failed to surmount its heavy burden of overcoming the deference the Board generally accords to permitting authorities in matters requiring technical expertise.
- (3) Third, ACE claims that NDEP responded inadequately to comments it submitted regarding the control efficiency basis for the NO_x BACT determination. ACE asserts that NDEP should have evaluated a control efficiency greater than 90 percent in its BACT analysis, rather than merely the 66.5 percent used by the Division, because BACT is an emission limit based on the "maximum degree of reduction" that is "achievable." The Board agrees that NDEP's response to comments on this issue was unresponsive but finds more significant the fact that the record indicates NDEP did consider the range of efficiencies of which the SCR control equipment is capable, the range of control efficiencies utilized in NO_x BACT emission limits proposed or permitted, and the adverse environmental effects of operating the SCR equipment at maximum efficiency on a continuous basis. Further, the Board finds the resulting emission limit of 0.067 lb/MMBtu to be within the range of proposed or permitted NO_x emission limits. The Board does not discount the failure by NDEP to respond directly and thoroughly to comments on the proposed permit but finds that here, where the rationale for the decision can be discerned from the record, the permit need not be remanded.

Next, ACE challenges NDEP's BACT analysis for PM emissions from the PC boiler, and the Division's responses to comments thereon, as clearly erroneous. NDEP originally determined that BACT for filterable and condensible PM emissions from the

boiler was 0.038 lb/MMBtu on a 24-hour rolling average, achieved using fabric filters. NDEP later reevaluated the situation and decided that for PSD purposes, BACT is typically set for the filterable fraction of PM only, as no technology had been identified, to its knowledge, to control condensible PM emissions from coal-fired boilers and thus it would be technically impossible to establish BACT limits for condensibles in circumstances such as these. After further investigation, NNEI proposed 0.012 lb/MMBtu, on a 24-hour rolling average time period, as an achievable limit for filterable PM emissions from the PC boiler, and NDEP concurred in that limit as BACT. On appeal, ACE raises four challenges, which the Board does not find persuasive, as summarized below.

- (1) First, ACE argues that NDEP removed the total (i.e., filterable plus condensible) PM limit from the permit without explaining in the response to comments that it had done so. The Board holds that NDEP clearly explained its actions in this regard in its answers to comments received from EPA Region IX and the National Park Service.
- (2) Second, ACE argues that the filterable PM limit included in the final permit is not BACT, as stack tests from similar coal-fired boilers and permit data from a Pennsylvania facility indicate that a lower limit is achievable. The Board holds otherwise, ruling that permit agencies have discretion to set BACT limits at levels that do not necessarily reflect the highest possible control efficiencies ever reached but rather will allow permittees to achieve compliance on a consistent basis. The Board also holds that ACE failed to carry its heavy burden of demonstrating clear error or other reason to remand the permit in this technical area.
- (3) Third, ACE charges that NDEP erroneously failed to establish a BACT limit for condensible particulate emissions. The Board disagrees, noting that “[a]lthough BACT is defined as an ‘emission limitation,’ it is also, as its name implies, keyed to a specific control technology.” ACE failed to bring to the Board’s attention any pollution control technologies or techniques that would be applicable to condensible PM emissions from the PC boiler and thus failed to persuade the Board that NDEP committed clear error in choosing not to establish a BACT limit for condensible PM.
- (4) Fourth, ACE claims that NDEP failed to respond to a comment that the 24-hour averaging time for PM emissions is not as stringent as a 3-hour averaging period and thus is not BACT. The Board finds that NDEP did provide a brief response to ACE’s comments in this regard, including a statement that the 24-hour averaging period selected was chosen to demonstrate compliance with ambient air quality standards. Because ACE failed to engage this idea on appeal, as it is obliged to do under the permitting rules, the Board declines to remand.

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Next, ACE contends that NDEP must require BACT limits for fugitive dust emissions from the coal, ash, lime, and carbon handling operations, storage piles, roadways, and the like. ACE notes that the permit application contained estimated fugitive PM emissions from these various sources, assuming the use of specific control methods and control efficiencies, and suggests that these assumptions be designated as limits in the permit. The Board denies review on this basis because ACE simply repeats the general comments it submitted on the draft permit, which contain little legal or technical analysis of the relevant issues. The Board observes that it is well settled that mere repetition of comments on appeal cannot achieve a petitioner's goals in these kinds of permit proceedings.

Finally, ACE raises seven primary arguments contending that various permit conditions are not enforceable. The Board finds no merit to any of the contentions, as summarized below.

- (1) First, ACE argues that NDEP failed to incorporate adequate provisions in the permit to ensure the enforceability of the PM BACT limits on PC boiler emissions. The Board finds that, to the contrary, the permit contained a substantial number of compliance monitoring and recordkeeping obligations that would ensure the BACT limits are fully enforceable on a continuous basis. The Board further finds that ACE failed to meet its burden of demonstrating that one of the obligations, a calculation of hourly average PM emissions using continuous coal monitoring data and a PM emission factor derived from the stack tests, was clearly erroneous. Similarly, the Board holds that ACE did not demonstrate that NDEP's decision not to require the installation of a continuous emissions monitor system for PM from the PC boiler was clearly erroneous.
- (2) Second, ACE argues that NDEP failed to respond to its suggestion that surrogate emissions monitoring be required to evaluate compliance with volatile organic compound ("VOC") and sulfuric acid mist emissions. The Board rejects this contention on the grounds that VOCs are not expected to be emitted by the TS Power Plant in amounts that would trigger PSD review for that pollutant, and that sulfur dioxide emissions monitoring will serve as an adequate surrogate for sulfuric acid mist emissions in this case.
- (3) Third, ACE charges that NDEP ignored comments it submitted regarding the applicability of BACT limits during startup/shutdown periods. The Board holds that this was not the case and that the permit did not exempt startup/shutdown periods from BACT compliance.
- (4) Fourth, ACE challenges a number of stack testing requirements as inadequate, but the Board holds that ACE failed to carry its burden of establishing clear error or other reason to remand on these grounds.

- (5) Fifth, ACE argues that NDEP erred by failing to incorporate in the permit dual emissions limits, in lb/hour and lb/MMBtu, to ensure enforceability under all operating conditions. The Board finds no merit to any of ACE's contentions, as several of the pollutants in question are not PSD-regulated, several already have dual limits directly or as surrogates, and, for the remaining pollutants at issue, dual limits are not needed to ensure continuous compliance in this case where the best available control is the use of low-sulfur fuel rather than any add-on control equipment.
- (6) Sixth, ACE claims that the permit does not require adequate monitoring to demonstrate compliance with numeric PM emissions limits set forth in the permit for materials handling operations involving coal, fly ash, bottom ash, recycle ash, lime, and carbon. The Board finds that on appeal ACE merely repeated its comments without demonstrating any reasoned basis in fact or law to support a finding of clear error, abuse of discretion, or other grounds for a remand.
- (7) Seventh, ACE contends that NDEP erred in its response to a number of criticisms ACE submitted on the recordkeeping and reporting provisions of the draft permit. The Board rejects ACE's arguments because they consisted simply of a repetition of its comments with no citation to statutory or regulatory authority or case law to support any of its positions.

***Before Environmental Appeals Judges Edward E. Reich,
Kathie A. Stein, and Anna L. Wolgast.***

Opinion of the Board by Judge Wolgast:

On May 5, 2005, the Nevada Division of Environmental Protection ("NDEP" or "Division") issued a federal prevention of significant deterioration ("PSD") permit to Newmont Nevada Energy Investment, L.L.C. ("NNEI"), pursuant to Clean Air Act § 165, 42 U.S.C. § 7475. The permit authorizes NNEI to construct a new 200-megawatt ("MW") coal-fired electric power generating facility, called the "TS Power Plant," near Dunphy in Eureka County, Nevada. NDEP is authorized to make PSD permitting decisions for new and modified stationary sources of air pollution in the State of Nevada pursuant to a delegation agreement with Region IX of the United States Environmental Protection Agency ("EPA" or "Agency"). *See* 40 C.F.R. § 52.21(u); 68 Fed. Reg. 52,837 (Sept. 8, 2003). Because NDEP acts as EPA's delegate under the PSD program, the Division's PSD permits are

considered EPA-issued permits, and appeals of the permit decisions are heard by the Environmental Appeals Board (“Board”) pursuant to 40 C.F.R. § 124.19. *See In re Hillman Power Co., L.L.C.*, 10 E.A.D. 673, 675 (EAB 2002); *In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 40-41 n.1 (EAB 2001); *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 169 (EAB 2000).

In this case, an organization called the Association for Clean Energy (“ACE”) filed an appeal of NDEP’s permit decision for the TS Power Plant project pursuant to 40 C.F.R. part 124, requesting on a number of grounds that the permit be remanded to the Division for further consideration. For the reasons set forth below, ACE’s petition for review is denied.

I. BACKGROUND

A. Statutory and Regulatory Background

Congress enacted the PSD provisions of the Clean Air Act (“CAA” or “Act”) in 1977 for the purpose of, among other things, “insur[ing] that economic growth will occur in a manner consistent with the preservation of existing clean air resources.” CAA § 160(3), 42 U.S.C. § 7470(3). To that end, parties must obtain preconstruction approval (i.e., PSD permits) to build new major stationary sources, or to make major modifications to existing sources, in areas of the country deemed to be in “attainment” or “unclassifiable” with respect to federal air quality standards called “national ambient air quality standards” (“NAAQS”). *See* CAA §§ 107, 160-169B, 42 U.S.C. §§ 7407, 7470-7492.

NAAQS are established on a pollutant-by-pollutant basis and are currently in effect for six air contaminants: sulfur oxides (measured as sulfur dioxide (“SO₂”)), particulate matter (“PM”),¹ carbon monoxide

¹ Particulate matter, or “PM,” is “the generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes.” 62 Fed. Reg. 38,652, 38,653 (July 18, 1997) (continued...)

(“CO”), ozone (measured as volatile organic compounds (“VOCs”)), nitrogen dioxide (“NO₂”), and lead. 40 C.F.R. § 50.4-.12. In areas deemed to be in “attainment” for any of these pollutants, air quality meets or is cleaner than the NAAQS for that pollutant. CAA § 107(d)(1)(A)(i), 42 U.S.C. § 7407(d)(1)(A)(i); *In re Maui Elec. Co.*, 8 E.A.D. 1, 4 (EAB 1998). In “unclassifiable” areas, air quality cannot be classified on the basis of available information as meeting or not meeting the NAAQS.² CAA § 107(d)(1)(A)(iii), 42 U.S.C. § 7407(d)(1)(A)(iii).

Applicants for PSD permits must demonstrate, through analyses of the anticipated air quality impacts associated with their proposed facilities, that their facilities’ emissions will not cause or contribute to an exceedance of any applicable NAAQS or air quality “increment.” CAA § 165(a)(3), 42 U.S.C. § 7475(a)(3); 40 C.F.R. § 52.21(k)-(m). Air quality increments represent the maximum allowable increase in a particular pollutant’s concentration that may occur above a baseline ambient air concentration for that pollutant. *See* 40 C.F.R. § 52.21(c) (increments for six regulated air pollutants). In addition, applicants for PSD permits must employ the “best available control technology,” or “BACT,” to minimize emissions of pollutants that may be produced by the new or modified source in amounts greater than applicable levels of

¹(...continued)

1997). Particulate matter with an aerodynamic diameter of ten micrometers or less is referred to as “PM₁₀.” *Id.* at 38,653 n.1. A number of methods to measure PM in its various forms have been developed. For instance, PM can be measured as “filterable” particulates, which are collected on a filter, or as “condensable” particulates, which are captured in a condenser or impinger train. The pulverized coal boiler will emit both of these varieties of PM during operation.

² Areas may also be designated as “nonattainment,” meaning that the concentration of a pollutant in the ambient air exceeds the NAAQS for that pollutant. CAA § 107(d)(1)(A)(ii), 42 U.S.C. § 7407(d)(1)(A)(ii). The PSD program is not applicable, however, in nonattainment areas. *See* CAA § 161, 42 U.S.C. § 7471.

significance established by the PSD regulations.³ CAA § 165(a)(4), 42 U.S.C. § 7475(a)(4); 40 C.F.R. § 52.21(j)(2).

The BACT requirement is defined in the CAA as follows:

[BACT] means an emissions limitation based on the maximum degree of reduction of each pollutant subject to regulation under [the Act] emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

CAA § 169(3), 42 U.S.C. § 7479(3); *accord* 40 C.F.R. § 52.21(b)(12) (regulatory definition of BACT). As the Board has noted on prior occasions, “[t]he requirements of preventing violations of the NAAQS and the applicable PSD increments, and the required use of BACT to minimize emissions of air pollutants, are the core of the PSD regulations.” *In re Hillman Power Co., L.L.C.*, 10 E.A.D. 673, 677 (EAB 2002) (quoting *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 247 (EAB 1999)); *see also In re Haw. Elec. Light Co.*, 8 E.A.D. 66, 73 (EAB 1998); U.S. EPA, Office of Air Quality Planning & Standards, *New Source Review Workshop Manual 5* (draft Oct. 1990) (“NSR Manual”).

In 1990, EPA issued draft guidance for permitting authorities to use in, among other things, analyzing PSD requirements in a consistent and systematic way. *See generally* NSR Manual. The NSR Manual sets forth a “top-down” process for determining BACT for a particular

³ The level of significance is, for example, 40 tons per year (“tpy”) for nitrogen oxides, 40 tpy for SO₂, 100 tpy for CO, and 40 tpy for VOCs (ozone). 40 C.F.R. § 52.21(b)(23) (listing various air pollutants and levels of emissions deemed “significant”).

regulated pollutant. The process includes five steps: (1) identifying all available control options for a targeted pollutant; (2) analyzing the control options' technical feasibility; (3) ranking feasible options in order of effectiveness; (4) evaluating their energy, environmental, and economic impacts; and (5) selecting as BACT a pollutant emission limit achievable by the most effective control option not eliminated in a preceding step. NSR Manual at B.5-.9; *see In re Cardinal FG Co.*, PSD Appeal No. 04-04, slip op. at 13-14 (EAB Mar. 22, 2005), 12 E.A.D. ___ (explaining steps in top-down analysis); *accord In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 42-43 n.3 (EAB 2001); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 129-31 (EAB 1999) (“*Knauf I*”); *In re Haw. Elec. Light Co.*, 8 E.A.D. 66, 84 (EAB 1998). Although it is not accorded the same weight as a binding Agency regulation, the NSR Manual has been considered by this Board to be a statement of the Agency's thinking on certain PSD issues. *See, e.g., Cardinal*, slip op. at 12, 12 E.A.D. at ___ (“[A] careful and detailed analysis of the criteria identified in the regulatory definition of BACT is required, and the methodology described in the NSR Manual provides a framework that assures adequate consideration of the regulatory criteria and consistency within the PSD permitting program.”); *In re Tondu Energy Co.*, 9 E.A.D. 710, 719 n.13 (EAB 2001); *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 183 (EAB 2000) (“This top-down analysis is not a mandatory methodology, but it is frequently used by permitting authorities to ensure that a defensible BACT determination, involving consideration of all requisite statutory and regulatory criteria, is reached.”); *Knauf I*, 8 E.A.D. at 129 n.14, 134 n.25.

B. Factual and Procedural Background

On July 1, 2004, NNEI applied to NDEP for permission to construct a new coal-fired electric power generating facility in northeastern Nevada, approximately three miles north of the Town of Dunphy on 200 acres of private land in Eureka County. ACE Petition for Review Ex. C, ¶ 1.0 (NDEP, *Class I Application Review for Newmont Nevada Energy Investment, L.L.C., TS Power Plant* ¶ 1.0 (Oct. 28, 2004)) [hereinafter NDEP Appl. Review]. NNEI revised its permit application on two occasions, resubmitting it to NDEP with new information in August and then again in October 2004. *See, e.g., ACE Petition for*

Review Ex. J (portions of ENSR Corp., *TS Power Plant Revised Class I-B Operating Permit to Construct Application* (Oct. 2004)) [hereinafter Permit Appl.]; NDEP Response to ACE Petition for Review Ex. 1 (Permit Appl. app. 8). The area of the State of Nevada in which NNEI wishes to construct the new plant is currently designated as attainment or unclassifiable for NO₂, CO, SO₂, ozone, and PM. *See* 40 C.F.R. § 81.329 (Nevada air quality status).

The proposed facility, to be known as the “TS Power Plant,” consists of one 200-MW steam boiler with a maximum heat input rating of 2,030 million British thermal units per hour (“MMBtu/hr”). *See* NDEP Appl. Review at 2. Electricity will be generated by the steam produced as a result of burning pulverized subbituminous coal⁴ in the boiler. The facility will also operate four fuel oil-fired 35-MW simple-cycle combustion turbines with a heat input rating of 373.3 MMBtu/hr each, which will be available to generate power on a back-up basis when the steam boiler is not operating. *Id.* The steam boiler and combustion turbines will each be permitted to operate up to 8,760 hours per year (i.e., continuously), although only the boiler or the four turbines may be operated at one time, never simultaneously. The facility will also have an on-site coal unloading, storage, crushing, and transfer operation; storage silos for fly ash, recycle ash, lime, and activated carbon; a cooling tower; fuel oil storage tanks; a fly ash and bottom ash waste disposal area; and related features. *Id.* at 1-3. As currently configured, the proposed facility has the potential to emit CO, SO₂, nitrogen oxides (“NO_x”), PM/PM₁₀, flourides, and sulfuric acid mist in quantities sufficient to trigger the requirement for emissions limitations reflecting BACT. *See* NDEP Appl. Review ¶ 4.0, at 8-10; Permit Appl. apps. 4, 10,

⁴ Coal is “a complex combination of organic matter and inorganic mineral matter formed over eons from successive layers of fallen vegetation. Coals are classified by rank according to their progressive alteration in the natural metamorphosis from lignite to anthracite.” ACE Petition for Review Ex. D-41, at 1.1-1 (Office of Air Quality, Planning & Standards, EPA, I *Compilation of Air Pollutant Emission Factors AP-42: Stationary Point and Area Sources* ch. 1.1, at 1.1-1 (Sept. 1998)). “Bituminous” or “soft” coals are the largest group of coals and have lower fixed carbon and higher volatile matter than anthracite (i.e., hard coal). *Id.* “Subbituminous” coals “have higher moisture and volatile matter and lower sulfur content than bituminous coals and may be used as an alternative fuel in some boilers originally designed to burn bituminous coals.” *Id.*

¶ 10.1 & tbl. 10.1; *see also* 40 C.F.R. § 52.21(b)(23) (PSD significance levels).

As part of the permit application process, NNEI conducted BACT analyses for the relevant pollutants, *see* Permit Appl. app. 10, which NDEP subsequently reviewed and with which the Division ultimately concurred. *See* NDEP Appl. Review ¶ 5.0, at 11-14 & attach. 2. NNEI also conducted air quality analyses, *see* Permit Appl. app. 8 (dispersion modeling files), which NDEP subsequently reviewed and approved. NDEP Appl. Review ¶¶ 6.0-7.0, at 15-17. NDEP issued a draft PSD permit to NNEI on October 28, 2004, containing proposed terms and conditions to regulate the proposed power plant. On November 1, 2004, the Division mailed notices inviting public comment on the draft permit and establishing a comment period that extended through December 6, 2004. NDEP received written comments on the draft permit from EPA Region IX; the National Park Service; the Humboldt, Elko, and Eureka Boards of County Commissioners; the Lander County Economic Development Authority; the Cities of Winnemucca and Elko; Cyanco, Inc.; and ACE.

After reviewing the public comments on the draft permit, NDEP issued a final PSD permit on May 5, 2005, for NNEI's construction of the TS Power Plant, along with several documents responding to comments on the draft permit. *See* ACE Petition for Review Ex. A (NDEP, Class I Air Quality Operating Permit to Construct No. AP4911-1349 (May 5, 2005)) [hereinafter Permit]; *id.* Ex. F (NDEP Response to EPA Region IX's Comments on Draft Operating Permit to Construct, TS Power Plant (May 5, 2005)) [hereinafter RTC at EPA-xx]; *id.* Ex. H (NDEP Response to National Park Service's Comments on Draft Operating Permit to Construct, TS Power Plant (May 5, 2005)) [hereinafter RTC at NPS-xx]; *id.* Ex. I (NDEP Response to ACE's Comments on Draft Operating Permit to Construct, TS Power Plant (May 5, 2005)) [hereinafter RTC at ACE-xx].

On June 3, 2005, ACE filed PSD Appeal No. 05-04 with this Board. *See* Petition of ACE and Its Members (June 3, 2005) ("Pet'n"). At the request of the Board, NDEP submitted a response to the merits of the petition for review on July 20, 2005. *See* Response of NDEP to

Petition for Review Filed by ACE (July 20, 2005) (“NDEP Resp.”). NNEI also filed a response to the petition on July 22, 2005, in accordance with a June 21, 2005 Board order granting it permission to do so. *See* Response of NNEI (July 22, 2005) (“NNEI Resp.”). On August 4, 2005, ACE filed a motion for leave to reply to NDEP’s response, along with a reply brief, which the Board granted on August 5, 2005. *See* Reply Brief of ACE (Aug. 4, 2005) (“Reply Br.”). On August 11, 2005, NDEP submitted a motion to file a surreply to ACE’s reply, along with a surreply brief, which the Board granted on August 15, 2005. *See* Surreply Brief of NDEP (“Surreply Br.”). The case now stands ready for decision by the Board.

II. DISCUSSION

Under the rules governing this proceeding, a PSD permit ordinarily will not be reviewed unless it is based on a clearly erroneous finding of fact or conclusion of law, or involves an important matter of policy or exercise of discretion that warrants review. *See* 40 C.F.R. § 124.19(a); 45 Fed. Reg. 33,290, 33,412 (May 19, 1980). The Board’s analysis of PSD permits is guided by the preamble to section 124.19, which states that the Board’s power of review “should be only sparingly exercised” and that “most permit conditions should be finally determined at the [permit issuer’s] level.” 45 Fed. Reg. at 33,412; *accord In re Cardinal FG Co.*, PSD Appeal No. 04-04, slip op. at 10 (EAB Mar. 22, 2005), 12 E.A.D. ___. The burden of demonstrating that review is warranted rests with the petitioner, which must state its objections to the permit and explain why the permit issuer’s previous response to those objections is clearly erroneous or otherwise warrants review. *In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 11-12 (EAB June 21, 2005), 12 E.A.D. ___; *In re Steel Dynamics, Inc.*, 9 E.A.D. 740, 744 (EAB 2001).

The question presently before the Board is whether ACE has made a sufficient showing that any condition or conditions of the PSD permit are clearly erroneous or involve an important matter of policy or exercise of discretion warranting review. In the analysis below, we find that none of ACE’s arguments rise to the level necessary to justify a grant of review of this permit.

A. NO_x BACT for the Coal-Fired Boiler

ACE begins its appeal by challenging the NO_x BACT analysis conducted for the 200-MW pulverized coal-fired steam boiler (“PC boiler”), the largest emissions unit included in the design of the proposed TS Power Plant. NDEP determined that BACT for the boiler is 0.067 pounds per MMBtu (“lb/MMBtu”) on a 24-hour rolling average basis, achieved using selective catalytic reduction (“SCR”) and low- NO_x burners with over-fire air technology. See Permit §§ V.A.1.a(3), V.A.2.a(11); NDEP Appl. Review ¶ 5.1.1, at 12; Permit Appl. app. 10, ¶¶ 10.3, at 10-2 to -10 (BACT analysis). ACE claims that lower NO_x emission limits are achievable for the boiler, and thus the permitted limit does not constitute BACT, for three primary reasons.

First, ACE argues that NDEP erroneously relied only on actually “achieved” NO_x emissions levels reached by other facilities, rather than on “achievable” limits, in establishing BACT for the PC boiler. Pet’n at 11-13. Second, ACE contends that during the public comment period on the draft PSD permit, it provided numerous examples of BACT determinations for other facilities showing that lower NO_x limits are achievable. ACE argues that NDEP failed to adequately consider and respond to these comments and therefore failed to reach a valid NO_x BACT result. *Id.* at 13-26. Third, ACE claims that NDEP responded inadequately to comments it submitted regarding the control efficiency basis for the NO_x BACT determination. ACE asserts that NDEP should have evaluated a control efficiency greater than 90 percent in its BACT analysis, rather than merely the 66.5 percent used by the Division, because BACT is an emission limit based on the “maximum degree of reduction” that is “achievable.” *Id.* at 26-31. We address these arguments in turn below.

1. Establishing the Permit Limit: Achieved Versus Achievable

In comments on the draft PSD permit for the TS Power Plant, ACE argued that a lower NO_x emission limit than that proposed for the PC boiler is achievable. ACE stated, “[T]he reasoning that a limit must be achieved by an operating unit to satisfy BACT is inconsistent with the definition of BACT and the top-down process. The definition of BACT

only requires that an emission limit be ‘achievable,’ not achieved.” Pet’n Ex. D, at 5 (Letter from Tanya A. Gulesserian, Adams Broadwell Joseph & Cardozo, to Michael Elges, Chief, Bureau of Air Pollution Control, NDEP (Dec. 3, 2004)) [hereinafter ACE Comments] (citing 40 C.F.R. § 52.21(b)(12)). NDEP responded to ACE’s comments as follows:

The term achievable means capable of being achieved in practice – a limit that will allow the permittee to achieve compliance consistently. As the Environmental Appeals Board has repeatedly concluded, BACT does not require that the emission limit reflect the highest possible control efficiency, but instead one that “will allow the permittee to achieve compliance consistently.” The EAB has also said that “[i]t is customary to establish emission limitations based on realistic operating parameters, rather than on results that are only occasionally achievable.” For instance, specific vendor guarantees may be used for defining an achievable limit, but those guarantees must be deemed applicable to the design and operation (including fuel use) for the proposed unit. Emission limits that are incidentally achieved, or achieved in performance tests are not directly achievable for maximum emission limits consistently over a period of years. To be achievable for a 24-hour period, the achievability must be demonstrated for an extended length of time (for example, a year) on all 24-hour periods during that year. A BACT limit based on an annual average, or a 30-day average, permit emission limit cannot be deemed achievable for a 24-hour period on a continuous basis.

RTC at ACE-3.

On appeal, ACE singles out NDEP’s statement that “[t]o be achievable for a 24-hour period, the achievability must be demonstrated for an extended length of time (for example, a year) on all 24-hour periods during that year.” *See* Pet’n at 12. ACE believes this statement is a misconstruction of the CAA, which, in its view, requires that

emission rates be “achievable,” not demonstrated as having been “achieved” either in practice or over an extended period of time. ACE argues that the plain language of the statute, requiring that emission rates be “achievable,” is the “technology-forcing” component of BACT. According to ACE, “achieved” means “accomplished in the past,” whereas “achievable” means “capable of being accomplished in the future.” *Id.* ACE claims that “BACT can only move pollution control technology forward if emission limits are set stringent enough to force companies to try new approaches and do something different from the ‘same old.’” *Id.* (citing *Ala. Power Co. v. EPA*, 636 F.2d 323, 372 (D.C. Cir. 1980)). ACE concludes by accusing NDEP of improperly eliminating candidate BACT limits from consideration in the BACT analysis process because the limits have not been “achieved” by being “demonstrated over an extended period of time.” *Id.* at 12-13.

NDEP responds by arguing that ACE unfairly characterizes the Division’s construction of the term “achievable,” as used in the BACT definition. NDEP notes that rather than taking the position that an emissions rate must be “achieved” (rather than achievable), the Division actually stated in its response to ACE’s comments that “[t]he term achievable means capable of being achieved in practice – a limit that will allow the permittee to achieve compliance consistently.” RTC at ACE-3, *quoted in* NDEP Resp. at 11. NDEP argues that this view finds “overwhelming support” in Board case law. NDEP Resp. at 11-12 (citing cases).

We agree with NDEP that a permit issuer may appropriately consider, as part of its BACT analysis, the extent to which available data in the record evidence the ability to consistently achieve certain emissions rates or control effectiveness of the selected technology or pollution control method. Accordingly, we hold that a permit issuer’s rejection of a more stringent emissions limit based on the absence of data showing that the more stringent rate has been consistently achieved over time is not a per se violation of the BACT requirements. At the same time, however, the permit issuer is obliged to adequately explain its rationale for selecting a less stringent emissions limit, and that rationale must be appropriate in light of all evidence in the record. Our analysis follows.

The plain terms of the statute require that the “emission limitation” selected as BACT be based on “the maximum degree of reduction of each pollutant” that “is achievable for such facility.” CAA § 169(3), 42 U.S.C. § 7479(3); *cf.* 40 C.F.R. § 52.21(b)(12). ACE is correct in arguing that statutory and regulatory terms, such as “maximum” and “achievable,” constrain a permitting authority’s discretion. *Alaska Dep’t of Env’tl. Conservation v. EPA*, 540 U.S. 461, 485-89 (2004). Indeed, Agency guidance specifically states that “[i]n the absence of a showing of differences between the proposed source and previously permitted sources achieving lower emissions limits, the permit agency should conclude that the lower emissions limit is representative for that control alternative.” NSR Manual at B.24.

ACE is also correct in arguing that the word “achievable,” as used in the statute and regulations, mandates a forward-looking analysis of what the facility can achieve in the future. Indeed, because BACT is a preconstruction site-specific determination, BACT review inherently requires a judgment regarding what can reasonably be expected in the future. *See In re Cardinal FG Co.*, PSD Appeal No. 04-04, slip op. at 11 (EAB Mar. 22, 2005), 12 E.A.D. ____ (“BACT is a site-specific determination resulting in the selection of an emission limitation that represents application of control technology appropriate for the particular facility”); *In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 47 (EAB 2001); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 128-29 (EAB 1999); *In re CertainTeed Corp.*, 1 E.A.D. 743, 747 (Adm’r 1982) (“It is readily apparent * * * that * * * BACT determinations are tailor-made for each pollutant emitting facility.”).

The BACT analysis, however, must be solidly grounded on what is presently known about the selected technology’s effectiveness at controlling pollutant emissions. We have observed that “[i]n reaching [the] facility-specific result, the emission limitations achieved by other facilities and corresponding control technologies used at other facilities are an important source of information in determining what constitutes *best available*.” *Knauf I*, 8 E.A.D. at 128-29. Likewise, the word “achievable” used in the statute and regulations, although forward-looking, also constrains the permit issuer’s discretion by prohibiting BACT limits that would require pollution reductions greater than what

can be achieved with available methods. The NSR Manual explains as follows:

Manufacturer's data, engineering estimates and the experience of other sources provide the basis for determining achievable limits. Consequently, in assessing the capability of the control alternative, latitude exists to consider any special circumstances pertinent to the specific source under review, or regarding the prior application of the control alternative.

NSR Manual at B.24.

We have recognized that the available data on the past performance of the selected technology may show that "the control efficiency achievable through the use of the technology may fluctuate, so that it would not always achieve its optimal control efficiency." *In re Masonite Corp.*, 5 E.A.D. 551, 560 (EAB 1994); *see also In re Pennsauken County, N.J. Res. Recovery Facility*, 2 E.A.D. 768, 769-70 (Adm'r 1989) (selected technology's control efficiency known to fluctuate). In addition, test method variability may result in observed emissions rate fluctuations. *In re Knauf Fiber Glass, GmbH*, 9 E.A.D. 1, 15 (EAB 2000) ("*Knauf II*"). Further, "[d]ue to characteristics of individual plant processes, we recognize that application of identical technology may not yield identical emission limits." *Knauf I*, 8 E.A.D. at 143; *see also* NSR Manual at B.23 ("Many control techniques, including both add-on controls and inherently lower polluting processes[,] can perform at a wide range of levels.").

We recently explained that "[t]he underlying principle of all of these cases is that PSD permit limits are not necessarily a direct translation of the lowest emissions rate that has been achieved by a particular technology at another facility, but that those limits must also reflect consideration of any practical difficulties associated with using the control technology." *Cardinal*, slip op. at 23, 12 E.A.D. at ___. Thus, we have held that a permit writer is not required to set the emissions limit at the most stringent emissions rate that has been demonstrated by a facility using similar emissions control technology. *In re Kendall New Century*

Dev., PSD Appeal No. 03-01, slip op. at 17 (EAB Apr. 29, 2003), 11 E.A.D. ____.

Instead, permit writers retain discretion to set BACT levels that “do not necessarily reflect the highest possible control efficiencies but, rather, will allow permittees to achieve compliance on a consistent basis.” *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 188 (EAB 2000); *accord In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 53 (EAB 2001). In particular, we have approved the use of a so-called “safety factor” in the calculation of the permit limit to take into account variability and fluctuation in expected performance of the pollution control methods. *See, e.g., Knauf II*, 9 E.A.D. at 15 (“There is nothing inherently wrong with setting an emissions limitation that takes into account a reasonable safety factor.”). As we noted in *Masonite*, where the technology’s efficiency at controlling pollutant emissions is known to fluctuate, “setting the emissions limitation to reflect the highest control efficiency would make violations of the permit unavoidable.” 5 E.A.D. at 560.

In essence, Agency guidance and our prior decisions recognize a distinction between, on the one hand, measured “emissions rates,” which are necessarily data obtained from a particular facility at a specific time, and on the other hand, the “emissions limitation” determined to be BACT and set forth in the permit, which the facility is required to continuously meet throughout the facility’s life. Stated simply, if there is uncontrollable fluctuation or variability in the measured emission rate, then the lowest measured emission rate will necessarily be more stringent than the “emissions limitation” that is “achievable” for that pollution control method over the life of the facility. Accordingly, because the “emissions limitation” is applicable for the facility’s life, it is wholly appropriate for the permit issuer to consider, as part of the BACT analysis, the extent to which the available data demonstrate whether the emissions rate at issue has been achieved by other facilities over a long term. Thus, the permit issuer may take into account the absence of long-term data, or the unproven long-term effectiveness of the technology, in setting the emissions limitation that is BACT for the facility. *Masonite*, 5 E.A.D. at 560 (noting that the permit issuer must have flexibility when “the technology itself, or its application to the type of facility in question, may be relatively unproven”).

Nevertheless, “[t]he BACT analysis is one of the most critical elements of the PSD permitting process. As such, it should be well documented in the administrative record.” *Knauf I*, 8 E.A.D. at 131. In particular, “the basis for choosing the alternate level (or range) of control in the BACT analysis must be documented.” NSR Manual at B.24. We have consistently held that the permit issuer must provide a reasoned basis for its decision, which must include an adequate response to comments raised during the public comment period. *See, e.g., Knauf I*, 8 E.A.D. at 142; *see also In re Gen. Motors, Inc.*, 10 E.A.D. 360, 374 (EAB 2002); *Steel Dynamics*, 9 E.A.D. at 191 n.31; *Masonite*, 5 E.A.D. at 568-69, 572 (remand due to incomplete BACT analysis); *In re Brooklyn Navy Yard Res. Recovery Facility*, 3 E.A.D. 867, 875 (Adm’r 1992) (remand for failure to adequately consider public comments regarding BACT). Thus, while we conclude that NDEP’s rejection of more stringent emissions limits based on the absence of data showing that the more stringent rate has been consistently achieved over a long term is not a per se violation of the BACT requirements, we nevertheless must further consider whether NDEP’s rationale for approving the proposed NO_x BACT limit in this case is appropriate in light of the evidence in the record. We therefore turn next to ACE’s case-specific BACT examples.

2. ACE’s Examples of Lower “Achievable” NO_x Emissions Limits

a. Desert Rock Energy Facility, New Mexico

ACE’s first example is a NO_x emissions limit proposed as BACT in a PSD permit application filed in May 2004 for a 1,500-MW pulverized coal-fired electric power plant called the Desert Rock Energy Facility. *See* ACE Comments Ex. 1 (Desert Rock PSD Permit Application). Desert Rock is proposed to be situated on Navajo Nation trust land in the northwestern corner of New Mexico, near numerous national parks and federally protected wilderness areas in Arizona, Colorado, New Mexico, and Utah. *Id.* ¶ 6.1, at 6-1 & figs. 6-10 to -12. The permit applicant, Steag Power, L.L.C., is a German corporation with more than twenty years of experience in applying SCR control technology to coal-fired boilers. *See id.* ¶ 4.2.1.4, at 4-7. Steag hired ENSR Corporation, an environmental consulting firm, to prepare the

BACT analysis for Desert Rock, and Steag and ENSR proposed a NO_x BACT limit of 0.06 lb/MMBtu as a 24-hour average, to be achieved using low-NO_x burners and SCR air pollution control technology. *Id.* ¶ 4.2.1.5, at 4-9.

In comments on the draft TS Power Plant permit, ACE identified the Desert Rock NO_x limit as one NDEP had erroneously failed to evaluate for, and explain its inapplicability to, the PC boiler. ACE Comments at 6-7. ACE pointed out that ENSR Corporation prepared the TS Power Plant BACT analysis on NNEI's behalf less than six months after preparing the Desert Rock analysis for Steag, and thus the parties were fully aware that a lower BACT determination had been made for the Desert Rock facility. *Id.* at 6. ACE also observed that while both facilities will burn subbituminous coal, TS Power Plant will burn Powder River Basin ("PRB") coal from Wyoming, which is low in nitrogen, whereas Desert Rock will burn New Mexican coal that has a higher nitrogen content. ACE argued that given this fact, the PC boiler should be able to achieve an even lower NO_x emission rate than the Desert Rock BACT limit of 0.06 lb/MMBtu. *Id.* at 7.

NDEP responded to ACE's comments by enumerating six reasons for excluding the Desert Rock limit from the TS Power Plant BACT analysis, as follows:

- (1) An "additional discussion" in the Desert Rock BACT analysis, which ACE failed to mention, indicates that "permitted emission levels may need to be adjusted to the equivalent level that can be achieved with the particular coal type that is available to the Desert Rock Energy Facility."
- (2) The Desert Rock analysis found a NO_x emission limit range of 0.07 to 0.08 lb/MMBtu for recently permitted comparable facilities.
- (3) The Desert Rock limit "is proposed only, not guaranteed, not finalized, and set low to demonstrate required compliance with visibility standards."
- (4) NNEI has "worked closely" with its design engineers and potential vendors and has been told that 0.067 lb/MMBtu is the

lowest NO_x limit that could be “consistently achieved” by the PC boiler.

- (5) Another PRB coal-burning facility (Sand Sage Power, Kansas) has an interim NO_x limit of 0.12 lb/MMBtu, which is well above the TS Power Plant limit, for its first three years of operation.
- (6) The Desert Rock application does not address fuel-bound nitrogen in its NO_x control analysis, as the ACE comment implies it does.

RTC at ACE-4.

On appeal, ACE asserts that NDEP’s response constitutes clear error. As a general matter, we accord broad deference to permitting authorities with respect to issues requiring the exercise of technical judgment and expertise. *E.g.*, *In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 26-29 (EAB June 21, 2005), 12 E.A.D. __; *In re Peabody W. Coal Co.*, CAA Appeal No. 04-01, slip op. at 16-17 (EAB Feb. 18, 2005), 12 E.A.D. __; *In re Carlota Copper Co.*, NPDES Appeal No. 00-23 & 02-06, slip op. at 22 (EAB Sept. 30, 2004), 11 E.A.D. __; *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 201, 214-15 (EAB 2000). While NDEP’s responses are terse, the responses, along with the administrative record, provide an adequate explanation for NDEP’s decision.

NDEP’s first response to ACE’s comments refers to the Desert Rock NO_x BACT analysis, *see* RTC at ACE-4, which set a limit of 0.06 lb/MMBtu but cautioned that “[t]o the extent that other projects will achieve BACT based on use of a different coal type (i.e., [PRB] coal vs. New Mexico subbituminous), permitted emission levels may need to be adjusted to the equivalent level that can be achieved with the particular coal type that is available to the Desert Rock Energy Facility.” ACE Comments Ex. 1, ¶ 4.2.1.3, at 4-3 (Desert Rock BACT analysis). The implication is that other facilities examining 0.06 lb/MMBtu as a possible NO_x BACT limit should consider their planned fuel type in making their BACT determinations. NDEP states that unlike the Desert Rock facility, which will utilize New Mexico subbituminous coal at its 1500-MW facility, the TS Power Plant will utilize PRB subbituminous coal at its

single-unit 200-MW facility. ACE's petition does not take issue with the choice of coal type proposed for the TS Power Plant.

The record reflects that NDEP considered the Desert Rock proposed NO_x permit limit but gave more credence to data available on emission limits, and proposed emission limits, at facilities burning PRB subbituminous coal. NDEP reviewed, and the BACT analysis reflects, a list of all proposed and permitted power plants utilizing PRB subbituminous coal, with NO_x emissions controlled by SCR and low-NO_x burners. *See* RTC at ACE-2 tbl.; *cf.* Permit Appl. app. 10A, tbls. 10A-1, 10A-2. In conducting its analysis, NDEP found that the range of NO_x emission limits at these power plants fueled or proposed to be fueled by PRB coal is 0.069 lb/MMBtu to 0.09 lb/MMBtu, all less stringent than the proposed 0.067 lb/MMBtu limit for the TS Power Plant. RTC at ACE-2. The BACT analysis also reveals that coal-fired power plants burning PRB or other types of coal and using SCR systems with and without low-NO_x burners generally have higher NO_x emissions or emissions limits than the 0.067 lb/MMBtu at issue here. *See* Permit Appl. app. 10, ¶ 10.3.5, at 10-6 to -7 & tbl. 10-3; *id.* app. 10A, tbls. 10A-1, 10A-2.

Second, while we agree with ACE's contention that NDEP's references to recently permitted facilities with higher NO_x limits are not particularly responsive to ACE's evidence of a lower achievable emissions rate (i.e., Desert Rock's), it was appropriate, as noted above, to determine and to consider the range of control limitations that the permittee could reasonably expect to achieve over time, particularly with respect to the coal fuel type at issue here.

Third, NDEP criticizes the Desert Rock limit as "proposed only, not guaranteed, [and] not finalized." RTC at ACE-4. This seems to constitute an argument that BACT analyses need not evaluate emissions limits for similar facilities that are in proposed form only and not yet included in final PSD permits. As we explained above, a BACT limit is not based on a guarantee, but rather upon various sources of data including manufacturer's data, engineering estimates, and the experience of other sources. NSR Manual at B.24. NDEP in fact states, and the BACT analysis includes, the permit issuer's reliance on proposed as well

as finalized NO_x BACT emission limitations from facilities fired by subbituminous coal. In its response to comments, NDEP also stated that a properly conducted BACT analysis may include consideration of proposed emissions limits for as-yet unpermitted facilities and need not be confined solely to emissions rates achieved in practice by operating facilities of similar type. *See* NDEP Resp. at 16 (“NDEP’s responses to comments made clear that the [Division] considered additional sources [in evaluating BACT], including potential vendor information and proposed emission limits for as-yet unpermitted facilities”) (citing RTC at ACE-2 tbl., ACE-4). Thus, while we agree with ACE that a limit being only proposed or not “guaranteed” is not by itself a sufficient ground for distinguishing a permit limit, as the Division seemed to attempt to do in its response to ACE’s comments, that response is at odds with both other responses to comments and with the Division’s assertion that it in fact considered proposed permit emission limits in its analysis. Given this, notwithstanding the statement in the response to comments cited by ACE, it does not appear that the Division actually relied on a lack of a “guarantee” as a basis for distinguishing the Desert Rock permit.

Fourth, NDEP distinguishes the Desert Rock NO_x limit on the ground that Steag and ENSR proposed a low limit primarily to demonstrate compliance with visibility standards for national parks and wilderness areas, and not merely to achieve the objectives of the BACT program. RTC at ACE-4; NDEP Resp. at 16. ACE attempts to rebut this argument by pointing out that the NSR Manual specifies that BACT limits must demonstrate protection of short-term ambient standards, such as visibility. Reply Br. at 17 (citing NSR Manual at B.56). NDEP does not respond to ACE’s rebuttal in its surreply. We considered the Desert Rock permit application, including the BACT and air quality analyses, and found no evidence therein to support NDEP’s contention that Steag and ENSR chose 0.06 lb/MMBtu as a NO_x limit to ensure achievement of visibility standards. While the Desert Rock BACT analysis indicates that the permittee’s environmental consultant, ENSR, found NO_x emission limits of 0.07 lb/MMBtu to 0.08 lb/MMBtu to be “state of the art” for SCR and low-NO_x burner controls, ENSR determined that an emission limit of 0.06 lb/MMBtu was achievable given the conditions presented at Desert Rock. The Desert Rock NO_x BACT analysis does not

explain what technical specifications distinguish Desert Rock from emission limitations considered “state of the art.” While NDEP speculates that the rationale turned on the company’s need to meet more stringent air requirements for Class I areas given its proximity to national parks and federally protected wilderness areas, nothing in the Desert Rock BACT analysis states such a rationale. We therefore decline to speculate or to give credibility to this rationale.

Finally, ACE contends that the nitrogen content of PRB coal is lower, and that this distinction should result in lower NO_x emissions from facilities using PRB coal. ACE does not point to record evidence comparing the nitrogen content of PRB and New Mexico subbituminous coal, but, even assuming PRB coal does have a lower nitrogen content, ACE provides no evidence that a lower nitrogen content in fact results in lower NO_x emissions. To the contrary, in its response to comments submitted on the proposed permit, NNEI contends that a lower nitrogen content would not necessarily result in lower NO_x emissions because such emissions are driven by the conditions and temperature at which the coal is fired. NDEP Resp. Ex. 3, at 25. Again, we decline to speculate on a technical issue raised by ACE but for which there is no dispositive record support.

ACE’s comments summarily contend that the NO_x emission limit of 0.06 lb/MMBtu should have served as the basis for the TS Power Plant NO_x emission limit, or NDEP should have explained in more detail why the Desert Rock proposed limit was inapplicable. While we agree that NDEP’s response to ACE’s comment is sparse, we cannot find that the Division committed clear error. Here, NDEP did consider the Desert Rock NO_x emission limitation, and briefly explained why it found the emission limitation proposed there inapplicable. *See* RTC at ACE-4. As explained above, we do not agree with some of the rationales articulated by NDEP, but, at bottom, NDEP relied in large part on the experience of other coal-fired power plants using the same fuel type, PRB coal. Given that we give particular deference to a permitting agency on technical matters, we do not find this rationale to constitute clear error. ACE, in contesting the proposed limit, had a heavy burden to show why NDEP’s use of proposed and permitted facilities using the same fuel type resulted in a clearly erroneous BACT emission limit. *See, e.g., In re BP Cherry*

Point, PSD Appeal No. 05-01, slip op. at 26-29 (EAB June 21, 2005), 12 E.A.D. __; *In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 50-52 (EAB 2001); *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 201, 214-15 (EAB 2000); *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 567 (EAB 1998), *review denied sub nom. Penn Fuel Gas, Inc. v. EPA*, 185 F.3d 862 (3d Cir. 1999). We find that ACE did not meet this high standard. Review is therefore denied on this ground.

b. *Haber Report for Baldwin Generating Station, Illinois*

ACE's second example is a range of NO_x emission limits proposed as BACT by Matt Haber, a CAA expert with EPA Region IX, for Unit 3 of the Baldwin Generating Station in Illinois. Like the TS Power Plant, Baldwin will burn PRB coal from Wyoming as its fuel source. Mr. Haber determined that BACT for NO_x using SCR, low-NO_x burners, and an optimization system ranges between 0.015 and 0.04 lb/MMBtu. ACE Comments Ex. 4, at 3, 50 (Matt Haber, *Best Available Control Technologies for the Baldwin Generation Station, Baldwin, Illinois* 3, 50 (Apr. 2002)) [hereinafter Haber Report]. When ACE raised the Haber Report BACT limits in its comments on the proposed TS Power Plant permit, NDEP responded by stating that it had reviewed the Report in detail and concluded that the analysis therein did not "provide a sound guarantee, valid observations for the relevant time period, or documentation that * * * these levels are achievable for the specific coal fired unit." RTC at ACE-6. NDEP noted that EPA Region IX had reviewed the TS Power Plant BACT analysis but had not commented on or otherwise contested the NO_x analysis using Haber Report information. *Id.* NDEP concluded, "The Haber report represents a calculated estimate of a hypothetical best case performance, not a guarantee or a representation that this control effectiveness can be consistently achieved in practice." *Id.*

On appeal, ACE argues that NDEP did not explain why the Haber Report BACT limits, including the least stringent one, 0.04 lb/MMBtu, are not appropriate for the TS Power Plant. Pet'n at 18-19. NDEP responds by noting that Mr. Haber prepared the Report for purposes of litigation rather than in connection with a PSD permit

application and that, in the Division's view, the Report contains speculative BACT determinations that lack empirical support and are weakened further by author equivocations. NDEP Resp. at 16-17. ACE does not attempt to rebut these statements in its reply brief.

In essence, we have in this instance a permitting authority that asserts it reviewed the Haber Report in detail and rejected its findings as insufficiently supported, versus a petitioner that states the permit authority's characterization of the Report is baseless. Neither side delves very far into the details of the Report, short of an ACE observation that the BACT determinations are for an existing coal-fired boiler at the Baldwin station that is being retrofitted with cleaner technology rather than a new boiler that could be engineered more cleanly from the outset and thus presumably achieve lower emissions limits. *See* Pet'n at 18. ACE also points out that despite contending it had reviewed the Haber Report "in detail," NDEP, which stated in its response to ACE's comments that "no specific averaging time is provided," RTC at ACE-6, somehow missed the fact that Mr. Haber did provide an averaging time of three hours for the BACT limits, which is purportedly more stringent than the TS Power Plant's 24-hour averaging time.⁵ Pet'n at 17 (citing Haber Report at 3).

All things considered, we find it appropriate to defer to NDEP in this technical area. Permitting authorities are required to respond briefly to all significant comments submitted on draft permits, 40 C.F.R. § 124.17(a)(2), and sometimes they do so in ways that fail to satisfy commenters. This does not mean the response is inadequate, necessarily. In this instance, NDEP made clear that it had reviewed the Haber Report and found its contents to be hypothetical and speculative, far from a legitimate basis on which to establish a BACT limit that could be consistently achieved in practice by TS Power Plant. A party wishing to obtain a grant of review of that decision must carry a heavy burden of convincing us that NDEP's technical analysis is erroneous. *See, e.g., In*

⁵ NDEP notes that even if it was mistaken on this point, that error "does not affect the validity of its other reasons for viewing the Haber Report with skepticism." NDEP Resp. at 17 n.10.

re Ash Grove Cement Co., 7 E.A.D. 387, 403 (EAB 1997). Here, this would have involved close parsing of the Haber Report language and demonstrations that the Report's conclusions are not hypothetical but rather relevant and applicable to the TS Power Plant scenario. NDEP concluded the Haber Report limits were not adequately substantiated to apply to TS Power Plant, and ACE's appeal provides no technical rebuttals of that finding. We therefore deny review of the permit on this ground.

c. Texas State Implementation Plan

ACE's third example is a determination by the Texas Natural Resource Conservation Commission ("TNRCC") that a NO_x emission limit of 0.030 lb/MMBtu is technically feasible "based on the literature and discussion with SCR vendors." Pet'n at 19 (quoting ACE Comments Ex. 5 (Texas Register)). TNRCC's determination is also based on a decision by Reliant Energy to award a contract for construction of SCRs on four coal-fired boilers with an emission specification of 0.030 lb/MMBtu, which, in TNRCC's opinion, "supports [its] view that the technology has the capability to achieve this [emissions control] level." *Id.* TNRCC used this technical feasibility determination to establish emission limits for coal-fired boilers of 0.033 lb/MMBtu for the Dallas/Fort Worth nonattainment area and 0.040 lb/MMBtu for the Houston/Galveston nonattainment area. *Id.* at 19-20. ACE pointed out in comments on the draft TS Power Plant permit that these limits have been incorporated into the Texas State Implementation Plan ("SIP")⁶ and are equivalent to the "lowest

⁶ The CAA contemplates that states may exercise primary responsibility for creating plans to maintain and improve the Nation's air quality consistent with the requirements of the CAA. States are required to develop "state implementation plans," or "SIPs," that provide a means for attainment of the NAAQSs in nonattainment areas or for the prevention of significant deterioration in areas that are already in attainment or unclassifiable. CAA § 110, 42 U.S.C. § 7410. Each state's SIP must set forth a permitting program that is at least as stringent as the requirements of the CAA. CAA § 110(a), 42 U.S.C. § 7410(a). EPA is charged with reviewing each state's proposed SIP and determining whether the SIP complies with the CAA. EPA is also authorized to enforce the requirements of a state's SIP. CAA § 113(a), 42 U.S.C. § 7413(a).

achievable emission rate,” or “LAER,”⁷ and as such should have been included in the top-down BACT analysis for the TS Power Plant. *Id.* at 20. NDEP responded in part that ACE provided “no data” to support this position, and that neither the Nevada SIP nor Administrative Code incorporated the Texas SIP limits for the Dallas and Houston nonattainment areas. RTC at ACE-6.

On appeal, ACE challenges NDEP’s response by arguing that it did, in fact, include with its comments documentation of TNRCC’s view that a NO_x limit of 0.030 lb/MMBtu is technically feasible, and it also contends that there is no requirement that a limit be incorporated into a SIP or state regulations to qualify as BACT. Pet’n at 20. ACE therefore asserts that NDEP clearly erred by failing to respond to its comments and by failing to conduct a BACT analysis in light of the evidence presented. *Id.*

NDEP responds by arguing that it did not rely on the Texas SIP limits for the Dallas and Houston nonattainment areas “for the fundamental reason that ‘[t]he available information does not bear out ACE’s assertion that these NO_x levels are achievable in practice.’” NDEP Resp. at 17 (quoting RTC at ACE-6). NDEP draws our attention to the opinion of two energy companies (Reliant Energy and another company), reported in TNRCC’s discussion of the new SIP limits, that:

[T]he proposed emission specification of 0.030 lb/MMBtu for coal-fired boilers is well below the NO_x emission rate currently achieved in practice by any coal-fired unit in the world and [] there is no operating

⁷ The LAER requirement provides that all affected sources must comply with either the most stringent limit contained in a SIP or the most stringent emission limit achieved in practice, whichever is more stringent. In contrast, under BACT, consideration of energy, environmental, or economic impacts may justify a lesser degree of control. Compare 40 C.F.R. § 52.21(b)(12) (definition of BACT) with *id.* §§ 51.165(a)(1)(xiii), .166(b)(52) (definition of LAER). The NSR Manual suggests that LAER determinations “are available for BACT purposes and must also be included as control alternatives” during Step 1 of the BACT analysis and “usually represent the top alternative.” NSR Manual at B.5.

experience at this level, or even approaching this level, to demonstrate that the proposed rate can be achieved or maintained by the affected units in [the nonattainment areas] on a continuous basis.

ACE Comments Ex. 5 (Texas Register). NDEP points out that TNRCC explicitly agreed with the energy companies' analysis of the "numerous challenges in achieving the design emission specifications" for coal-fired boilers in the nonattainment areas, despite the fact that TNRCC nonetheless ultimately decided to treat 0.030 lb/MMBtu as a technically feasible limit. NDEP Resp. at 17 (citing ACE Comments Ex. 5). Furthermore, NDEP argues that TNRCC "noted that the limit was not technology-based but was adopted 'because the reductions are necessary for the SIP,'" *id.* (quoting ACE Comments Ex. 5), meaning, in NDEP's view, that the reductions were needed for a nonattainment area to demonstrate compliance with ambient air quality standards and not to satisfy BACT requirements. *Id.* at 17-18.

NDEP goes on to argue that the Texas rule establishing 0.030 lb/MMBtu as a technically feasible NO_x limit, as cited by ACE in its comments, does not constitute supportive data of the kind it would need to adopt the lower NO_x limits as BACT. NDEP reports that in response to ACE's failure to provide any supportive data, the Division took it upon itself to search for facts relevant to the Texas experience. NDEP Resp. at 18. NDEP identified only one facility, W.A. Parish, that is subject to the Texas SIP's lower NO_x limits, but the Division found that preliminary operational data indicated the facility had repeatedly failed to meet its NO_x limit. *Id.*; *see* ACE Comments Ex. 2 (continuous monitoring data of NO_x emissions from W.A. Parish facility, January through June 2004); RTC at ACE-3 (reporting W.A. Parish maximum daily average NO_x emissions of 0.134 lb/MMBtu and several days of 24-hour rolling average NO_x emissions reaching 0.18 lb/MMBtu). Moreover, NDEP discovered that the W.A. Parish facility's design had been modified to co-fire natural gas as well as coal. NDEP Resp. at 18; RTC at ACE-5. NDEP concluded as a result of these findings that the Texas SIP limits "'are not relevant [to the TS Power Plant situation] and are not 'achievable' for a unit that is fired on coal only.'" NDEP Resp. at 18 (quoting RTC at ACE-5).

In sum, NDEP contends that its response to ACE's comment on the Texas SIP was "fact-based and reasonable." *Id.* It concludes by arguing that its "assessment of the achievability of the Texas emission limit lies at the heart of the discretion that a permitting authority must exercise." *Id.* (quoting *In re Steel Dynamics, Inc.*, 9 E.A.D. 740, 747 (EAB 2001), as stating that "the permit agency has the discretion to choose the most representative, reliable data from the data available").

In its reply to NDEP's response on appeal, ACE asserts that the Division rejected the Texas SIP limits "out of hand" as "'a mere regulatory hope.'" ACE Reply at 17 (quoting NDEP Resp. at 18). ACE then states, without elaboration, that "[u]nder the NSR Manual, control options incapable of meeting existing SIP limits would not meet the definition of BACT under any circumstances." *Id.* at 17 (citing NSR Manual at B.12).

In our view, NDEP did not reject the Texas SIP limits "out of hand." Rather, upon receiving ACE's arguments in its comments on the draft TS Power Plant permit, NDEP actively investigated the basis for, and operational experience in applying, the Dallas and Houston emission limits. NDEP evaluated the claims made by the energy companies operating in Texas, reviewed TNRCC's analysis of achievable NO_x emissions rates, and identified one operational coal-burning facility designed to achieve one of the Texas SIP limits. NDEP disagreed with TNRCC's view that SCR technology used on coal-fired boilers is capable of achieving a NO_x limit of 0.030 lb/MMBtu, at least in the case where a facility is burning PRB coal (with which there is a lack of SCR experience, *see* Permit Appl. app. 10 ¶ 10.3.5, at 10-8, -10; ACE Comments Ex. 5) and must meet a 24-hour rolling average BACT limit on a continuous basis. NDEP provided reasons for this conclusion in its response to comments and its response to this appeal, *see* RTC at ACE-3 to -6; NDEP Resp. at 17-18, and ACE did not come forward with any operational, performance, or other data from any other facility in the world indicating that NDEP's analysis might be erroneous. Instead, ACE merely cited an NSR Manual passage relating to Step 1 of the top-down BACT analysis, involving identification of alternative emission control techniques. The full passage reads:

To satisfy the legislative requirements of BACT, EPA believes that the applicant must focus on technologies with a demonstrated potential to achieve the highest levels of control. For example, control options incapable of meeting an applicable New Source Performance Standard (NSPS) or [SIP] limit would not meet the definition of BACT under any circumstances. The applicant does not need to consider them in the BACT analysis.

NSR Manual at B.12. The control options TNRCC relied on as being capable of achieving a NO_x emissions rate of 0.033 or 0.040 lb/MMBtu are SCR and SCR combined with low-NO_x burners. *See* ACE Comments Ex. 1, at 4-5 (discussion of W.A. Parish controls); ACE Comments Ex. 5 (Texas Register). These same options were considered in the TS Power Plant BACT analysis, and ACE does not contend they were not or otherwise attempt to show how the NSR Manual passage it cites aids its argument in this specific analysis.

As mentioned above, it is well settled that the Board “traditionally assigns a heavy burden to persons seeking review of issues that are quintessentially technical.” *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 567 (EAB 1998) (quoting *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 403 (EAB 1997)), *review denied sub nom. Penn Fuel Gas, Inc. v. EPA*, 185 F.3d 862 (3d Cir. 1999); *accord In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 26-29 (EAB June 21, 2005), 12 E.A.D. __; *In re Peabody W. Coal Co.*, CAA Appeal No. 04-01, slip op. at 16-17 (EAB Feb. 18, 2005), 12 E.A.D. __. This BACT matter is such an issue, and ACE has not succeeded in carrying the heavy burden necessary to persuade us to second-guess the permitting authority. Review of the NO_x BACT limit on this ground is therefore denied.

d. Babcock & Wilcox Paper

ACE’s fourth example is a paper presented by The Babcock & Wilcox Company at an air pollution control symposium in August 2001, entitled, “*How Low Can We Go? Controlling Emissions in New Coal-Fired Power Plants.*” ACE Comments Ex. 8. The paper lists NO_x permit

limits for six new coal-fired units in the United States as ranging from 0.08 to 0.17 lb/MMBtu. *Id.* tbl. 1, at 4. The paper notes that “[t]he technology of emission control equipment has advanced such that even lower emissions goals can be sought today.” *Id.* at 4. The authors then suggest that a NO_x emissions goal of 0.008 lb/MMBtu can be achieved by advanced pulverized coal-fired plants burning low-sulfur PRB coal, whereas a goal of 0.016 lb/MMBtu can be achieved by plants burning high-sulfur bituminous coal. *Id.* tbl. 2, at 5; *id.* at 10.

ACE noted in comments on the draft TS Power Plant that the Georgia Department of Natural Resources (“GDNR”) had referenced the Babcock & Wilcox paper in a letter to the PSD permit applicant for the Longleaf Energy Station in Georgia, informing the applicant that it would be required to discuss the paper’s emissions levels in the Longleaf plant’s BACT analysis. ACE Comments at 9-10 & Ex. 7, at 2 (Letter from James A. Capp, Manager, NO_x Permitting Unit, GDNR, to D. Blake Wheatley, Assistant Vice President, Longleaf Energy Associates, L.L.C. 2 (Mar. 6, 2002)). Based on this information, ACE contended that NDEP should have considered the 0.008 lb/MMBtu NO_x limit in its own BACT analysis for the TS Power Plant. *Id.* at 10. NDEP responded by explaining that it had contacted the authors of the Babcock & Wilcox paper, who had indicated that “they have not built such a unit, have not provided any guarantees that they would build this type of unit, and would not in the near future provide such a guarantee.” RTC at ACE-6. NDEP therefore concluded that the paper “is a clearly hypothetical exercise that does not serve as a basis for imposing an emission limit that is consistently achievable.” *Id.* at ACE-7.

On appeal, ACE challenges NDEP’s response as conclusory. Pet’n at 22. ACE believes that requiring a facility to be built is irrelevant to a BACT determination, as it inappropriately eliminates the technology-forcing aspect of the BACT requirement. *Id.* ACE also criticizes NDEP for seeking a “guaranteed” emission limit, contending that BACT is simply a limit based on the maximum degree of reduction a permit authority determines is achievable for a given facility. *Id.* at 22-23. Finally, ACE notes that Babcock & Wilcox has, in fact, proposed a facility to meet the low emissions limits described in its paper. The facility, called the Thoroughbred Ultra-Low Emissions Project, is

proposed to be sited in Muhlenberg County, Kentucky, and will be operated by the Peabody Group. *See id.* at 22 & Ex. K.

NDEP counters ACE's appeal by asserting that "there is nothing conclusory about a response [to comments] that says, essentially, 'We've checked and the authors say that this is "pie-in-the-sky" and not do-able.'" NDEP Resp. at 19. The Division contends that it was not seeking a "guaranteed emission limit," as ACE argues; rather, NDEP rejected the Babcock & Wilcox paper's NO_x emission goals because ACE failed to demonstrate that those goals would be consistently achievable at the TS Power Plant. *Id.* at 19-20. NDEP also points out that the actual PSD permit for the Thoroughbred project, issued in February 2005, contains a NO_x BACT emissions rate of 0.08 lb/MMBtu based on a thirty-day rolling average, which is higher than the rate proposed for TS Power Plant. *Id.* at 19 n.11 (citing Thoroughbred PSD Permit at 3 (rev. 2 issued Feb. 17, 2005), *available at* <http://www.air.ky.gov/permitting/Thoroughbred+Generating+Station+Company+LLC>). According to the Division, ACE had only offered Babcock & Wilcox's 2001 application to the Department of Energy for funding for enhanced controls for the Thoroughbred project, and not the actual PSD permit for the plant, to support its argument that Babcock & Wilcox had proposed a facility capable of achieving the low NO_x emissions rates presented in the paper. *Id.*

Upon consideration of all the evidence and argument, it is clear that NDEP considered ACE's comments regarding the emissions rates in the Babcock & Wilcox paper and rejected the rates as hypothetical only, not something TS Power Plant could reasonably achieve in practice on a consistent basis. NDEP did this on the basis of discussions between NNEI's consultant, ENSR Corporation, and the paper's authors, who purportedly told ENSR that "the limits suggested in the paper were aspirational and [the authors] are not aware of any currently available technology that could achieve these aspirational limits, nor of any facility that has proposed to or is currently achieving these limits.'" NDEP Resp. at 19 (quoting NDEP Resp. Ex. 3, at 32 (Letter from Glenn C. King, Manager, Environmental Permitting, Newmont Mining Corp., to Matthew DeBurle, Supervisor, Class I Permitting Branch, Bureau of Air Pollution Control, NDEP 32 (Mar. 16, 2005))). ACE's evidence with

respect to the Thoroughbred project does not persuade us to the contrary, as the NO_x limit actually permitted, 0.08 lb/MMBtu on a rolling thirty-day average, is higher than the TS Power Plant's proposed NO_x limit. Accordingly, ACE has failed to carry its heavy burden of establishing clear error on this technical issue, and we find no basis for remanding the permit on these grounds.

e. Foreign Operating Experience

ACE's fifth example involves information pertaining to coal-fired boilers at power plants in Denmark and Japan. First, ACE submitted evidence during the public comment period that purported to show that the 250-MW Amager Power Station in Copenhagen, Denmark, is achieving NO_x emissions levels less than 0.04 lb/MMBtu. *See* ACE Comments at 10 & Ex. 9 (Topsøe DENOX Catalysts, DNX Series, Report on Amager Power Station (Apr. 2003)) [hereinafter *Topsøe Report*]. NDEP responded that the *Topsøe Report* “does not provide clear indication of compliance tests or the relevant time period that such compliance tests would apply,” and “appears to be a promotional brochure rather than a sound engineering analysis.” NDEP Resp. at 20 (quoting RTC at ACE-7). On appeal, ACE insists that the *Topsøe Report* provides actual NO_x emissions data, Pet'n at 24, but NDEP argues that the document includes no information that 0.04 lb/MMBtu levels are being met and no data from which such levels could be calculated. NDEP Resp. at 20.

We considered the *Topsøe Report* and found a table listing design specifications as well as operating data collected six, eleven, nineteen, and twenty-four months after startup of the facility in October 2000, which appears to translate roughly to performance tests in April 2001, September 2001, May 2002, and October 2002. The table then lists, among other things, inlet conditions, including NO_x in parts per million (“ppm”), and exit conditions. It may be the case that a NO_x emissions rate in lb/MMBtu could be calculated from these data. However, if that is indeed possible, ACE did not put forward such calculations in either its response to comments or on appeal. We decline to speculate on this technical matter and therefore find no basis for a

remand, as ACE has not carried its heavy burden of establishing clear error on NDEP's part.

Second, ACE submitted evidence during the public comment period that purported to show that an SCR unit on a 1,000-MW PC boiler in Japan has achieved a NO_x emissions rate of 0.05 lb/MMBtu. *See* ACE Comments at 10 & Ex. 10 (Mitsubishi Heavy Industries America, Inc., *Latest SCR Technologies and Experience on Coal Fired Boilers* (Mar. 18-20, 1998)) [hereinafter Mitsubishi Report]. NDEP responded that the test of the SCR system did achieve an outlet NO_x emissions rate of 0.05 lb/MMBtu but that the test was part of a tuning exercise and did “not establish a basis for an emission limit that can be consistently achieved.” NDEP Resp. at 20 (quoting RTC at ACE-7). NDEP stated further that the information provided for the Japanese plant did not include an averaging period, which would be necessary to establish a compliance limit. RTC at ACE-7. On appeal, ACE contends that the 0.05 lb/MMBtu NO_x rate was achieved as part of overall performance and not merely in a tuning exercise. Pet’n at 24 (citing Mitsubishi Report at 5, 8).

We considered the Mitsubishi Report and found references to “actual operating data” purporting to show that a rate of 0.05 lb/MMBtu has been achieved by the 1,000-MW boiler, which began commercial operation in July 1997. Mitsubishi Report at 2, 8, 12 tbl. 4. However, the report does not provide dates for the testing and simply states that “SCR performance adjustments and testing were done after the combustion side tuning of the boiler was completed and confirmed to be stable.” *Id.* at 5. This sentence may be the source of NDEP's contention that the performance test was part of a tuning exercise. In addition, the report does not include any averaging periods, as NDEP points out. On this record, we must defer once again to NDEP's analysis of the data. ACE has failed to carry its heavy burden of convincing us that NDEP clearly erred in excluding this example from its BACT analysis for

TS Power Plant.⁸ Accordingly, review of the PSD permit is denied on these foreign operating experience grounds.

f. *BACT Opinions of EPA Region III and Pennsylvania Department of Environmental Protection Based on Operating Data from Montour Power Station, Pennsylvania*

ACE's sixth and last example consists of evidence that EPA Region III and the Pennsylvania Department of Environmental Protection ("PADEP") hold the view that BACT for pulverized coal-fired boilers controlled by SCR systems is 0.04 lb NO_x/MMBtu on a 24-hour basis. EPA Region III submitted comments on a draft PSD permit proposed to be issued by the West Virginia Department of Environmental Protection ("WVDEP") for the Longview Power Plant in Monongalia County, West Virginia, expressing concern about a BACT determination of 0.08 lb/MMBtu made for NO_x emissions from that plant. Region III stated:

For NO_x reduction, Longview Power has proposed low-NO_x burners, overfired air, and [SCR]. EPA agrees with Longview's use of this technology[;] however, EPA feels that a lower emission rate is achievable utilizing higher performance low-NO_x burners with overfired air. * * * This process is demonstrated under similar conditions at PPL Generating Company's Montour Plant in Montour County, Pennsylvania.

⁸ As a third example of foreign operating experience, ACE had also commented that a 250-MW boiler in Japan had achieved a NO_x emissions rate of 0.04 lb/MMBtu. ACE Comments at 10. NDEP did not respond to this comment, on the ground that it was substantiated solely by a citation to a 1995 report that explains SCR system design but does not reference, much less offer data on, any operating plant. NDEP Resp. at 20 n.12. NDEP concluded that it had no duty to respond to the comment. *Id.* Upon consideration of the report in question, we agree with NDEP. See 40 C.F.R. § 124.17(a)(2) (permit issuer must provide brief responses to *significant* comments); see also *In re P.R. Elec. Power Auth.*, 6 E.A.D. 253, 255-59 (EAB 1995) (petition must contain sufficient specificity to inform Board of alleged error or other reason to fault permit issuer's analysis).

ACE Comments Ex. 12, at 3 (Letter from David J. Campbell, Chief, Permits and Technical Assessment Branch, EPA Region III, to Edward Andrews, WVDEP 3 (Sept. 29, 2003)). Region 3 submitted an enclosure containing its technical analysis that, on the basis of performance test results from the Montour plant, a NO_x emissions limitation of 0.04 lb/MMBtu would constitute BACT for the Longview facility. *Id.* encl. 2, at 8.

PADEP subsequently submitted comments on the Longview proposal after WVDEP reopened the comment period on that draft permit. PADEP expressed concurrence with EPA Region III's opinion that 0.04 lb/MMBtu is BACT for NO_x emissions in circumstances such as Longview's. *Id.* Ex. 13, at 1-2 (Letter from Nicholas A. DiPasquale, Deputy Secretary, PADEP, to John Benedict, Director, WV Division of Air Quality 1-2 (Dec. 31, 2003)). PADEP noted that in response to EPA's comments, WVDEP had observed that "PPL Montour's SCR systems did not consistently achieve a NO_x limit lower than 0.08 lb/MMBtu for the 2001 and 2002 ozone seasons on a 24-hour basis." *Id.* at 1. PADEP rebutted WVDEP's response by stating that while continuous emission monitoring data in 2001 and 2002 indicated that the Montour boilers operated at levels greater than 0.08 lb/MMBtu more than fifty percent of the time, later emissions data in the ozone season of 2003 indicated that the two units consistently performed at a NO_x emission rate of less than 0.04 lb/MMBtu on a 24-hour average for the second and third quarters of that year. *Id.* at 1-2. PADEP explained that the SCR system was installed to meet the requirements of Pennsylvania's NO_x allocation regulations (*see* 25 Pa. Code §§ 123.101-.121 (Nov. 2005)), and that under that "cap and trade" system, allowances were not needed in the 2001 and 2002 ozone seasons and the SCR system therefore was not operated at its maximum capacity. *Id.* at 1. PADEP accordingly concurred with Region III that, based on the Montour facility's emission data, a NO_x emission limitation of 0.04 lb/MMBtu over a 24-hour averaging period was achievable for the proposed Longview plant. *Id.* at 2.

ACE submitted these comment letters to NDEP for its consideration in the TS Power Plant BACT analysis. NDEP responded that "Longview had proposed a NO_x emission limit of 0.08 lb/MMBtu,

and based on a Unit 1 test, showing [sic] an actual compliance test where 90% controls were attained.” RTC at ACE-7. NDEP went on to contend that PADEP is “operating under a presumption that a stack test provides a sound guarantee of continued operation for a facility,” and the Division then claimed that “[i]t is impossible to draft a permit based on a single set of tests and expect that the performance would be achieved continually on a long term basis.” *Id.* Notably, NDEP did not mention the Montour plant in its response to ACE’s comments.

On appeal, ACE asserts that NDEP’s response to its comments is “facially incorrect.” Pet’n at 25. ACE claims that although stack tests are commonly used to establish BACT, PADEP actually relied on continuous emissions monitoring data from the Montour plant, and not stack test data from Longview, to support its determination that NO_x BACT should be 0.04 lb/MMBtu for the Longview facility. *Id.* at 26. ACE therefore asks that the permit be remanded to NDEP to conduct an adequate BACT analysis. *Id.*

In response to the key data underlying both EPA Region III’s and PADEP’s determinations that NO_x BACT for Longview should be established at 0.04 lb/MMBtu – i.e., the continuous emissions data from the Montour facility in Pennsylvania – NDEP asserts that PADEP “admitted that the [Montour] boiler[s] exceeded the permit limit of 0.08 lb/MMBtu more than 50 percent of the time during two of the three ozone seasons between 2001 and 2003.” NDEP Resp. at 21 (citing nonexistent enclosure to ACE Comments Ex. 13). NDEP does not discuss the analysis PADEP subsequently provided to the effect that Montour consistently achieved the NO_x limit of 0.04 lb/MMBtu in the second and third quarters of the 2003 ozone season. Neither does NDEP respond to PADEP’s and EPA Region III’s conclusions that NO_x BACT for pulverized coal-fired boilers using SCR controls is 0.04 lb/MMBtu. Instead, NDEP summarily states that it “rationally concluded that the case had not been made, based on the experience at either Longview or Montour, that the TS Plant reasonably should be expected to meet a NO_x limit less than 0.067 lbs/MMBtu.” *Id.*

The BACT analysis for the TS Power Plant presents a more complete explanation as to why the lower emission limit of

0.04 lb/MMBtu achieved during the 2003 ozone season at the Montour facility in Pennsylvania may not be representative of the operating conditions proposed for the Nevada facility. First, by way of background, we note that NDEP explicitly adopted the permit applicant's BACT analysis as part of its permit emission limit determinations. *See* NDEP Appl. Review ¶ 5.0, at 11-14 & attach. 2. Second, as the PADEP comments on the Longview Power facility indicate, the SCR controls at Montour were adopted in order for that facility to come into compliance with Pennsylvania's NO_x allocation regulations, which provide for a cap on NO_x emissions and trading of emission allowances banked by facilities that emit NO_x below the cap.⁹ *See* 25 Pa. Code §§ 123.101-.121 (Nov. 2005). This regulatory construct is consistent with PADEP's comment that the SCR system had not been consistently deployed during times when the company had excess allowances. *See* ACE Comments Ex. 13, at 1-2 (PADEP's comments on Longview Power's PSD permit application).

The TS Power Plant BACT analysis discusses the differences between the emission controls applicable to units such as the Pennsylvania Montour facility and the TS Power Plant facility, stating that "[n]o specific 'command and control' limits comparable to today's BACT limits are imposed on each unit that must be met at all specified averaging times. Establishing a BACT limit for a new project must take into account that such a limit must be met at all specified averaging times." Permit Appl. app. 10, ¶ 10.3.5, at 10-8. The analysis goes on to state that data from facilities retrofitted with SCR technology reveal a

⁹ A federal regulation, informally known as the "NO_x SIP Call," required 22 states, including Pennsylvania and West Virginia (i.e., the sites of the Montour and Longview facilities), to submit SIP revisions "to prohibit specified amounts of [NO_x] emissions * * * for the purpose of reducing NO_x and ozone transport across [s]tate boundaries in the eastern half of the United States." Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57,356, 57,536 (Oct. 27, 1998) (NO_x SIP Call regulation). The rule established a model cap-and-trade rule that set a cap on total emissions while employing a market-based system for trading NO_x emission allowances exceeding the cap. Under that model rule, sources employing emission control technology could bank excess allowances, which in turn could be purchased by other coal-fired boilers. *Id.* at 57,457.

range of NO_x emission rates, even in the ozone season, of 0.033 lb/MMBtu to 0.45 lb/MMBtu. *Id.* at 10-9. The BACT analysis concludes that the data are an indication “that the operating experience to date is not substantial enough to always maintain the lower range of emissions indicated.” *Id.*

ACE correctly notes that Region III and PADEP concluded that BACT for NO_x emissions for subbituminous coal-fired boilers should be set at 0.04 lb/MMBtu. However, the record also indicates that a 0.04 lb/MMBtu limit would not necessarily be required to be achieved on a continuous basis given the application of state and federal NO_x SIP market-based trading regimes applicable to both the West Virginia and Pennsylvania facilities that were the subject of the Region III and PADEP comments. As the Pennsylvania Montour data indicate, operation of the SCR technology to achieve 0.04 lb/MMBtu was limited to the “ozone seasons” of 2002 and 2003. This operating scenario is markedly different than that proposed by the TS Power Plant. As described in Part II.A.3 below, the TS Power Plant’s NO_x emission limit assumes a control efficiency that does not deploy the SCR technology at maximum efficiency on a continuous basis for operational reasons detailed therein. That discussion provides a rationale as to why the continual operation of the SCR at less than maximum efficiency typically results in NO_x emissions greater than 0.04 lb/MMBtu. *See infra* Part II.A.3.

In order to meet its heavy burden of obtaining review of a technical issue like a BACT limit, a party arguing in favor of review must demonstrate why NDEP’s technical analysis is clearly erroneous. *See, e.g., In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 194 (EAB 2000) (“[W]here an alternative control option has been evaluated and rejected, those favoring the option must show that the evidence “for” the control option clearly outweighs the evidence “against” its application.”) (quoting *In re Inter-Power of N.Y., Inc.*, 5 E.A.D. 130, 144 (EAB 1994)). Here, ACE must make its case as to why an emission limit achieved during a limited operational horizon should be viewed, from a technical perspective, as representative of an emission limit that must be continuously achieved on a year-round basis. This ACE did not do, and we therefore deny review on this ground.

3. *NO_x Emission Control Efficiency Levels*

Finally, in comments on the draft permit, ACE argued that NDEP erroneously failed to consider the most stringent control technology for NO_x emissions. ACE did not challenge NDEP's assessment that SCR is the most effective technology for removing NO_x from PC boiler emissions and, as such, should be ranked at the top of the control hierarchy compiled in Step 3 of the top-down BACT analysis. *See* ACE Comments at 15. However, ACE observed that SCR systems are capable of functioning over a wide range of emission control efficiency levels, removing anywhere from 30% to over 90% of the NO_x entering the SCR, and thus the BACT analysis for NO_x should have addressed a variety of SCR performance levels, with the 90%-plus level being the top control option. *Id.* at 15-16 (citing NSR Manual at B.23-.24). ACE noted that the TS Power Plant permit application includes an SCR design efficiency of 66.5% (which is one of the factors from which a NO_x emission limit of 0.067 lb/MMBtu appears to have been derived, *see* Permit Appl. app. 10B, tbl. 10B-1, at 1) and faulted NDEP for concurring in the selection of a NO_x emission limit as BACT without any apparent consideration of more effective SCR performance levels in the 80 to 85% or 90%-plus range.¹⁰ ACE Comments at 15.

In response, NDEP remarked, "There is no strict requirement to include a percent reduction in the permit limits established for a facility." RTC at ACE-10. NDEP opined that it is "not appropriate" to use percent reductions achieved at other facilities as a basis for demonstrating what is consistently achievable on a long-term basis at the TS Power Plant. *Id.* Moreover, NDEP expressed the notion that a pollution control technology's performance level (variously referred to as its control,

¹⁰ As examples of the higher control efficiencies that can be achieved by SCR systems, ACE listed the Amager Power Station in Denmark at 94% NO_x reduction, as well as the opinion of Alstom Power, included in this permit record, that with a PRB fuel, 80 to 85% NO_x reduction efficiencies can be maintained over the service life of the SCR catalyst. ACE Comments at 15; *see id.* Ex. 9, at 2 (Amager Power Station information); Permit Appl. app. 10C, at 1 (Electronic Mail Message from Vincent E. Pacello, Alstom Power, to Randy Larson (Feb. 23, 2004)) (Alstom Power responses to technical questions on TS Power Plant NO_x issues).

removal, or reduction efficiency) plays no role in the establishment of achievable emission limits, but rather the performance level is something that is “back-calculated” from pollutant inlet concentration and emission limit data points. *See id.* at ACE-3.

On appeal, ACE argues that NDEP failed to: (1) squarely respond to its comments; (2) acknowledge that SCR systems can remove NO_x at a wide range of performance levels and thus the BACT analysis must consider a variety of levels, including the most effective performance level, and then provide source-specific explanations for not choosing the most effective performance level; and (3) support its opinions regarding the allegedly irrelevant function of performance level in establishing emission limits. Pet’n at 26-27. For its part, NDEP states, “There is no authority requiring that either the selection of control technology or the choice of an emission limit be based on percentage control efficiency. Instead, selection of BACT should be based on an analysis of emission rates.” NDEP Resp. at 23. As support for its position, NDEP references the NSR Manual, which, the Division contends, provides a Step 3 example from the top-down BACT analysis wherein control techniques are ranked on the basis of emission limits and not percentage control effectiveness. *Id.* (citing NSR Manual at B.63, tbl. B-7, which lists a hierarchy of four alternative control technologies and their achievable emissions limits).

The Board and its predecessors have had occasion to address control efficiency-related arguments in several past PSD cases and have acknowledged that permitting agencies have discretion in determining whether a particular control efficiency level is appropriate in determining the best control technology and in setting an appropriate emissions limit.¹¹ We have found that:

¹¹ *See, e.g., In re Steel Dynamics, Inc.*, 9 E.A.D. 740, 759-60 (EAB 2001); *In re AES P.R. L.P.*, 8 E.A.D. 324, 333 n.11 (EAB 1999); *In re Masonite Corp.*, 5 E.A.D. 551, 559-63 (EAB 1994); *In re Hibbing Taconite Co.*, 2 E.A.D. 838, 844-45 (Adm’r 1989); *In re Pennsauken County, N.J., Res. Recovery Facility*, 2 E.A.D. 768, 769-71 (Adm’r 1989); *In re Honolulu Res. Recovery Facility*, 2 E.A.D. 375, 377-79 (Adm’r 1987).

When [a permit issuer] prescribes an emissions limitation representing BACT, the limitation does not necessarily reflect the highest possible control efficiency achievable by the technology on which the emissions limitation is based. Rather, the [permit issuer] has discretion to base the emissions limitation on a control efficiency that is somewhat lower than the optimal level.

* * * There are several different reasons why a permitting authority might choose to do this. One reason is that the control efficiency achievable through the use of the technology may fluctuate, so that it would not always achieve its optimal control efficiency. * * * Another possible reason is that the technology itself, or its application to the type of facility in question, may be relatively unproven. * * * To account for these possibilities, a permitting authority must be allowed a certain degree of discretion to set the emissions limitation at a level that does not necessarily reflect the highest possible control efficiency, but will allow the permittee to achieve compliance consistently.

In re Masonite Corp., 5 E.A.D. 551, 560-561 (EAB 1994). Similarly, in *In re Steel Dynamics, Inc.*, 9 E.A.D. 740 (EAB 2001), we stated that “while the guidance instructs permit authorities to evaluate the most effective level of control, it also contemplates that those authorities may exercise their discretion in reviewing less effective levels of control.” *Id.* at 760 (citing NSR Manual at B.23-.24).

These decisions are consistent with guidance provided in the NSR Manual, which reads:

The objective of the top-down BACT analysis is to not only identify the best control technology, but also a corresponding performance level (or in some cases performance range) for that technology considering source-specific factors. * * * It is not the EPA’s intention to require analysis of each possible level of efficiency for a control technique, as such an analysis

would result in a large number of options. Rather, the applicant should use the most recent regulatory decisions and performance data for identifying the emissions performance level(s) to be evaluated in all cases.

* * * *

Manufacturer's data, engineering estimates and the experience of other sources provide the basis for determining achievable limits. Consequently, in assessing the capability of the control alternative, latitude exists to consider any special circumstances pertinent to the specific source under review, or regarding the prior application of the control alternative. However, the basis for choosing the alternate level (or range) of control in the BACT analysis must be documented in the application.

NSR Manual at B.23.

In the instant case, the TS Power Plant's BACT analysis concedes that NO_x reductions of 80 to 90% can be achieved using SCR control technology. Permit Appl. app. 10, ¶ 10.3.2.1, at 10-3. Ultimately, NNEI and ENSR apparently calculated the BACT emission limit assuming a 66.5% efficiency rate for the SCR control unit.¹² NDEP downplays the importance of the control efficiency figure, contending that "the TS Plant's NO_x emission limit of 0.067 lb/MMBtu might represent a 66.5% reduction if uncontrolled boiler NO_x emissions are 0.20 lb/MMBtu, but would represent an increased percentage reduction if uncontrolled emissions are higher – e.g., the reduction would be 89% if the uncontrolled boiler emissions were actually 0.60 lb MMBtu." NDEP Resp. at 23-24. To find a more thorough explanation for why the

¹² The 66.5% figure is listed in an appendix to the BACT analysis describing cost data and listing 66.6% NO_x removal by SCR as a "design collection efficiency" estimate. Permit Appl. app. 10B, tbl. 10B-1, at 1.

emission limit was not calculated assuming a 90% control efficiency, one must look to the BACT analysis, not NDEP's response to comments.

The BACT analysis states that SCR technology is capable of achieving 80 to 90% reductions in NO_x emissions. Permit Appl. app. 10, ¶ 10.3.2.1, at 10-3. The analysis goes on to say that SCR technology is a "relatively new" system with "limited long-term operating experience." *Id.* ¶ 10.3.5, at 10-8. The analysis refers to the RACT/BACT/LAER Clearinghouse Database,¹³ included as an appendix at Table 10A-1, which includes eleven applications of SCR, of which seven state that the control efficiencies are "not given." *Id.* app. 10A, tbl. 10A-1. Of the four instances where the Clearinghouse Database provides SCR control efficiency data, those assumed efficiencies range from 50 to 75%. *Id.*

Further, the BACT analysis describes variations in the operation of the system that lead to lower control efficiencies than the maximum potential control efficiency achievable by the SCR equipment. The application states that higher efficiencies would require the injection of higher volumes of ammonia into the catalyst system. Permit Appl. app. 10, ¶ 10.3.5, at 10-9. This resulting "ammonia slip" leaves the stack. Ammonia slip is described as "an adverse environmental impact of SCR systems" that results when ammonia in excess of the levels required to react with NO_x emitted from the boiler is injected upstream of the SCR. "The lower the NO_x emission limit, the greater amounts of ammonia are injected which increases the ammonia slip." *Id.* The BACT analysis also lists additional adverse impacts considered in the operation of the SCR unit, including the formation of ammonium bisulfate salts when sulfur

¹³ "RACT/BACT/LAER" stands for "Reasonably Available Control Technology/Best Available Control Technology/Lowest Achievable Emission Rate." Each of these acronyms refers to technological standards established by different sections of the CAA. BACT is the standard mandated by the PSD provisions of the CAA. *See* CAA § 165(a)(4), 42 U.S.C. § 7475(a)(4). The RACT/BACT/LAER Clearinghouse contains information on emission controls and emission limits for industrial facilities across the country. The Clearinghouse is organized by source category, thereby making it relatively easy to access emission control information for a particular industrial enterprise.

trioxide reacts with excess ammonia, as well as catalyst degradation. *Id.* The analysis discusses these SCR operating conditions as factors in SCR performance. The analysis concludes that “[t]aking into consideration the reasons presented herein incorporating the operating experience of SCR systems, the adverse collateral environmental impacts,^[14] the new application of SCRs to Wyoming coal and the comparison to other recently issued permits for coal-fired power plants, the proposed NO_x emission limit of 0.067 lb/MMBtu on a 24-hour block average basis using SCR and low-NO_x burners with [overfire] should be considered BACT for the TS Power Plant.” *Id.* at 10-10.

We agree with ACE that NDEP’s response to comments on this issue was unresponsive and incomplete. However, more significantly, the record indicates that the applicant did consider the range of efficiencies of which the SCR control equipment is capable, the range of control efficiencies utilized in NO_x BACT emission limits proposed or permitted, and the adverse environmental effects of operating the SCR equipment at maximum efficiency on a continuous basis. NDEP in turn concurred in this analysis in reaching its decision on a NO_x emission limit, as noted in Part I.B above. *See* NDEP Appl. Review ¶¶ 5.0-.1, at 11-12. The control efficiency used here, 66.5%, is within the 30-90% range of expected control efficiency from SCR control equipment as stated by ACE. *See* ACE Comments at 15. Further, the resulting emission limit of 0.067 lb/MMBtu is within the range of proposed or permitted NO_x emission limits. We do not discount the failure by NDEP to respond directly and thoroughly to comment on the proposed permit.

¹⁴ BACT is defined “on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs.” CAA § 169(3), 42 U.S.C. § 7479(3); 40 C.F.R. § 52.21(b)(12). Secondary or “collateral” environmental impacts must be considered in a BACT analysis, and they can include emissions of unregulated air pollutants or impacts on other media (e.g., water, land). *See* NSR Manual at B.26, .47. For instance, ammonia slip can appropriately be considered a collateral impact during Step 4 of the BACT analysis. *See, e.g., In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 55, 56-59 (EAB 2001); *In re Sutter Power Plant*, 8 E.A.D. 680, 693 (EAB 1999). If collateral environmental impacts are severe enough in a particular case, they may justify the elimination of a specific pollution control technology from the BACT analysis. *See, e.g., NSR Manual at B.46-.53* (discussing environmental impacts analysis as part of Step 4 of the top-down BACT analysis).

We find, however, that here, where the rationale for the decision can be discerned from the record, we decline to remand.¹⁵ *See, e.g., In re Peabody W. Coal Co.*, CAA Appeal No. 04-01, slip op. at 39-40 n.69 (EAB Feb. 18, 2005), 12 E.A.D. ___ (where record shows permit issuer evaluated issue, even while failing to directly respond to particular comment on that issue, remand is not appropriate); *In re Hillman Power Co.*, 10 E.A.D. 673, 696 (EAB 2002) (denying review where permit issuer provided no specific response to comments presenting soil sampling data but where administrative record made clear that permit issuer had considered impacts of emissions on soils).

B. PM and PM_{10} BACT for the PC Boiler

Next, ACE challenges NDEP's BACT analysis for PM and PM_{10} emissions from the PC boiler, and the Division's responses to comments thereon, as clearly erroneous. NDEP originally determined that PM_{10} BACT for the boiler is 0.038 lb/MMBtu on a 24-hour rolling average, achieved using fabric filters (also known as baghouses). Permit Appl. app. 10, ¶ 10.6, at 10-17 to -20 (BACT analysis); NDEP Appl. Review attach. 5 (Draft PSD Permit § V.A.2.a(4), at V-1) [hereinafter Draft Permit]. NDEP intended this limit to encompass both filterable PM_{10} , which is material that may be collected on a filter (primarily ash in this case), and condensible PM_{10} , which is material that may be captured in a condenser or impinger train. Draft Permit § V.A.2.a(4), at V-1; *see In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 181 & nn.19-20 (EAB 2000) (discussing filterable and condensible particulates). Later, however, after

¹⁵ ACE also argues that NDEP erred by failing to consider control efficiencies in its BACT analysis for SO_2 emissions from the PC boiler and PM/PM_{10} emissions from the coal, ash, lime, and carbon handling systems. Pet'n at 47-49. We disagree and find adequate evidence in the record that NDEP evaluated control efficiencies and selected BACT in a reasonable fashion. The BACT analysis explicitly discusses control efficiencies for a number of SO_2 control technologies and selects dry scrubber technology, demonstrated at greater than 90% control efficiency, for application to the TS Power Plant. Permit Appl. ¶¶ 10.5.3-.5, at 10-14 to -17. The BACT analysis also discusses the control effectiveness of various options for particulate emissions from the materials handling systems. *Id.* ¶ 10.6.3.3, at 10-22. ACE has failed to carry its burden in these technical areas of persuading us that NDEP clearly erred in these analyses, and review is therefore denied on these grounds.

receiving comments on the PM_{10} BACT limit from EPA Region IX, the National Park Service (“NPS”), and ACE, NDEP reevaluated the situation and came to a different conclusion. NDEP decided that for PSD purposes, BACT is typically set for the filterable fraction of PM/PM_{10} only, as no technology has been identified, to its knowledge, to control condensible PM/PM_{10} emissions from coal-fired boilers and thus it would be technically impossible to establish BACT limits for condensibles in circumstances such as these. After further investigation, NNEI proposed 0.012 lb/MMBtu, on a 24-hour rolling average time period, as an achievable limit for filterable PM and PM_{10} emissions from the PC boiler, and NDEP concurred in that limit as BACT. *See* RTC at NPS-21 to -22; Permit § V.A.2.a(4), at V-1.

On appeal, ACE argues that: (1) NDEP removed the total (i.e., filterable plus condensible) PM_{10} limit from the permit without explaining in the response to comments that it had done so; (2) the filterable PM/PM_{10} limit included in the final permit is not BACT, as stack tests from similar coal-fired boilers and permit data from a Pennsylvania facility indicate that a lower limit is achievable; (3) NDEP failed to establish a BACT limit for condensible particulate emissions; and (4) the 24-hour averaging time for PM/PM_{10} emissions is not BACT. Pet’n at 31-44. We address these arguments in turn below.

1. Removal of Total PM_{10} BACT Limit

ACE claims that NDEP arbitrarily removed the total PM_{10} limit from the final permit and further failed to disclose that it was doing so. Pet’n at 32-33. ACE is mistaken. In answer to comments received from NPS and EPA Region IX, NDEP explained that it had reevaluated the PM BACT situation and replaced the total PM_{10} limit with a filterable-only PM/PM_{10} limit. NDEP stated, among other things:

[NNEI’s] application cites the control technologies that address the filterable portion of PM/PM_{10} . It is technically inconsistent to evaluate a fabric filter or an electrostatic precipitator [i.e., the filterable particulate controls] as a control device for non-filterable, or condens[i]ble, [PM]. The comments and other

applications also do not provide evidence that a technology should be reviewed for controlling the condens[ible] portion of PM₁₀ emissions. As noted in the application, most permits cite only the filterable portion. [NDEP's] restriction of the BACT evaluation of PM/PM₁₀ to the filterable portion only is consistent with PSD BACT requirements.

RTC at EPA-7, NPS-21. NDEP also referenced these explanations and summarized some of its related findings in response to ACE's comments. *See* RTC at ACE-23. Thus, NDEP did not err or act in an arbitrary fashion by modifying its PM/PM₁₀ BACT analysis between the draft and final permits. The Division's response to comments adequately considers and provides explanations for its decisionmaking process in this regard. Review of the permit is therefore denied on this ground.

2. Filterable PM/PM₁₀ BACT

ACE next claims that NDEP conjured the new 0.012 lb/MMBtu filterable PM/PM₁₀ BACT limit out of thin air, with no support or top-down BACT analysis whatsoever. Pet'n at 36. ACE is again mistaken. The original BACT analysis indicated that many other recently permitted PC-fired power plants had filterable PM₁₀ limits in the 0.015 to 0.018 lb/MMBtu range, using baghouses or electrostatic precipitators, and that the TS Power Plant could achieve 0.015 lb/MMBtu of PM₁₀ control using a baghouse. Permit Appl. app. 10, ¶ 10.6.1.5, at 10-20; *see id.* tbl. 10A-2 (EPA Region IV coal-fired boiler list). Subsequently, in its response to NPS's PM-related comments on the draft permit, NDEP explained:

Upon further review and after consultation with its potential vendors, NNEI has communicated to [NDEP] that with installation of a more expensive fabric filter (additional capital cost of \$276,000), it can achieve a BACT filterable[-]only PM₁₀ emission limit of 0.012 lb/MMBtu. Since NNEI is willing to incur this additional cost to achieve the lower PM₁₀ emission limit, the 0.012 lb/MMBtu PM/PM₁₀ limit will be considered BACT for the TS Power Plant * * *.

RTC at NPS-22.

ACE argues that it provided evidence of over 225 stack tests at coal-fired power plants in Florida, Georgia, New Jersey, and Utah that showed actual filterable PM/PM₁₀ emissions of less than 0.012 lb/MMBtu. Pet'n at 36-37; *see* ACE Comments at 40-41. NDEP was not persuaded to alter its BACT determination by ACE's evidence, however, stating:

Compliance tests are routinely well below established permit limits. It is not certain how these test results compare to the permit limits. The emission limit may have been met for a controlled compliance test for a limited time, but it is not clear that the emission limit would be consistently achievable for a rolling 24-hour average.

RTC at ACE-26.

In *In re Steel Dynamics, Inc.*, 9 E.A.D. 165 (EAB 2000), we addressed a similar set of stack-test-related arguments, as well as an important subsidiary argument raised by EPA's Office of Air and Radiation ("OAR") as amicus curiae. OAR pointed out that any suggestion by the permit issuer that stack test data are inadequate to establish BACT performance levels "runs directly counter to the approach outlined" in the NSR Manual and "call[s] into question [the permit issuer's] reliance on stack testing to demonstrate compliance." 9 E.A.D. at 187 (quoting Amicus Brief). OAR cited the NSR Manual for the proposition that experiences of other sources (among other things) provide the basis for determining achievable BACT limits, stressing EPA's viewpoint that performance data (i.e., stack tests) and recent regulatory decisions should be used to identify BACT limits. *Id.* (citing NSR Manual at B.23-.24). In that case, however, OAR did not advocate a remand, as OAR concluded that the stack test information submitted by the petitioner did not include adequate data by which to determine whether the limits obtained during the tests would be practicably achievable by the proposed facility. *Id.* The Board ultimately held that, all things considered, the permit issuer's decision to base BACT on limits

imposed on other similar facilities, rather than on the lowest emission levels ever achieved at other facilities, was not clearly erroneous, because the permit issuer had evaluated all comments, given extensive consideration to the filterable PM limit, and made a reasoned technical judgment on BACT. *Id.* at 186-89.

In this case, ACE argues that “NDEP does not explain why 225 stack tests [are] not adequate, when NDEP relies on a single stack test using identical methods over the entire life of the facility to determine compliance with the PM₁₀ limit.” Pet’n at 37. This argument echoes OAR’s concern in *Steel Dynamics*, but here, as there, it cannot carry the day. NDEP explained in its response to comments that the stack test data do not make clear whether the permitted emission limits “would be consistently achievable for a rolling 24-hour average.” RTC at ACE-26. As we stated in *Steel Dynamics*, permit agencies have discretion to set BACT limits at levels that do not necessarily reflect the highest possible control efficiencies ever reached but rather will allow permittees to achieve compliance on a consistent basis. 9 E.A.D. at 188 (citing *In re Masonite Corp.*, 5 E.A.D. 551, 560-61 (EAB 1994); *In re Knauf Fiber Glass, GmbH*, 9 E.A.D. 1, 15 (EAB 2000)). Here, the Division argues, on the basis of the coal-fired boiler permit information compiled by EPA Region IV, *see* Permit Appl. app. 10, tbl. 10A-2, that a filterable PM/PM₁₀ limit of 0.012 lb/MMBtu is as low as any BACT limit for a pulverized coal boiler. NDEP Resp. at 37. We find no clear error or other reason to fault this technical assessment, and thus review is denied on this ground. *See In re Kendall New Century Dev.*, PSD Appeal No. 03-01, slip op. at 17 (EAB Apr. 29, 2003), 11 E.A.D. __ (permit writers are not required in all instances to set BACT emissions limits at most stringent emissions rate demonstrated by facilities using similar emissions control technology).

ACE also cites a permit issued to the Northampton Generating Station in Pennsylvania in 1995 in support of its position that the permitted filterable PM/PM₁₀ limit is not BACT. The Northampton permit includes a total PM₁₀ limit of 0.088 lb/MMBtu based on an hourly average. *See* ACE Comments Ex. 12, encl. 2, at 9 (EPA Region III Comments on BACT Analysis for Longview Power). This facility burns anthracite culm in a large circulating fluidized bed (“CFB”) boiler, and

ACE commented that the TS Power Plant should be able to meet the same or a lower PM₁₀ limit because the ash content of the TS Power Plant's coal (i.e., the major source of filterable PM) is approximately seven times lower than the ash content of Northampton's fuel. ACE Comments at 36-37. NDEP responded by stating that "[t]he performance of the North[am]pton facility in meeting its stated emission limits is being investigated and is not resolved. Furthermore, that facility is a CFB unit firing anthracite culm. Given the nature of the fuel source and the CFB technology, such a limit is not directly comparable or applicable to the proposed TS Power Plant." RTC at ACE-24.

On appeal, ACE points out that EPA Region III expressed its view that the Northampton BACT limit is applicable to and should be considered in the PM/PM₁₀ BACT determination for a similar PC-fired boiler proposed to be constructed by Longview Power in West Virginia, and that Northampton stack testing in February 2001 indicated the facility is indeed meeting its 0.0088 lb/MMBtu PM₁₀ limit. Pet'n at 42-43; ACE Comments Ex. 12, at 3 & encl. 2, at 9. NDEP does not respond to these arguments. Instead, the Division repeats its own view that CFB boilers are not comparable to PC boilers such as the one that will be installed at the TS Power Plant, and then it asserts that "lower PM limits for some CFB boilers are offset by the increased PM₁₀ emissions that result from the greater power requirements of the fans required for those boilers; therefore, the actual PM₁₀ emissions at Northampton are essentially equivalent to those for the TS Plant." NDEP Resp. at 38 (citing RTC at NPS-12). NDEP also believes it is significant that no other coal-fired power plant has been required to meet Northampton's stringent PM₁₀ BACT limit in the ten years since that plant received its PSD permit, despite the proposal or issuance of dozens of permits for such plants in that time frame. *Id.* NDEP contends that "[t]he final filterable PM₁₀ BACT limit of 0.012 lbs/MMBtu is at the low end of proposed or permitted limits for pulverized coal boilers" and argues that selecting this limit as BACT was not clear error. *Id.* at 36.

We agree with NDEP that the Northampton example does not provide a ground for a remand. The permitting record clearly shows that the Division considered Northampton in its BACT review and provided responses to comments from NPS and ACE on the applicability of that

facility's limit in the context of the TS Power Plant. *See* RTC at NPS-2 to -15, ACE-24. We have no basis on this record for faulting NDEP's technical conclusions that PM/PM₁₀ emissions trade-offs may occur at CFBs due to fan use and thus actual PM₁₀ emissions at the TS Power Plant may be equivalent to those at Northampton. In short, we find that ACE did not carry its burden of establishing clear error or other grounds for remanding the TS Power Plant's filterable PM/PM₁₀ limit. Review is therefore denied on this basis.

3. BACT for Condensible PM/PM₁₀ Emissions

Next, ACE argues that NDEP erred by failing to determine BACT for condensible PM/PM₁₀ emissions. Pet'n at 37-40. ACE notes that under the PSD program, a facility must determine BACT for all pollutants that exceed the CAA's significance thresholds. *Id.* at 39 (citing 40 C.F.R. § 52.21(b)(23), (j)(2)). ACE claims that the significance threshold for PM₁₀ is expressed as total PM₁₀ (i.e., filterable plus condensible) and, because the TS Power Plant's potential emissions will exceed that threshold, BACT is required for total PM₁₀, including condensible PM₁₀. *Id.*

Upon consideration, we found that the applicant's BACT analysis for PM/PM₁₀ emissions from the PC boiler identifies fabric filters and electrostatic precipitators as possible technologies to control filterable particulates. With respect to condensibles, however, the analysis states, "There are no specified control technologies for condens[i]ble particulate matter (other than the pre-cursors emitted as SO₂ and NO_x).” Permit Appl. app. 10, ¶ 10.6.1.3, at 10-18. NDEP considered and confirmed this analysis in its BACT review, explaining, "It is technically inconsistent to evaluate a fabric filter or an electrostatic precipitator as a control device for non-filterable, or condens[i]ble, [PM]. The comments and other applications also do not provide evidence that a technology should be reviewed for controlling the condens[i]ble portion of PM₁₀ emissions.” RTC at NPS-21, EPA-7; *see id.* at ACE-23. Similarly, on appeal, NDEP asserts that to its knowledge, "there has never been any identification of BACT for a pollutant known as 'condens[i]bles,'" and neither ACE nor any other commenter identified a technology for controlling condensibles. NDEP Resp. at 31-32. NDEP

therefore concludes that it would be nonsensical to establish a condensible PM/PM₁₀ emissions limit as BACT.

We agree that NDEP did not clearly err in this decision. As set forth in several PSD cases preceding the establishment of this Board, “[a]lthough BACT is defined as an ‘emission limitation,’ it is also, as its name implies, keyed to a specific control technology.” *In re Hibbing Taconite Co.*, 2 E.A.D. 838, 844 (Adm’r 1989). That is:

It is readily apparent * * * that PSD permits and BACT determinations are tailor-made for each pollutant emitting facility. Consequently, the “case-by-case” evaluation of economic costs and energy and environmental impacts that has to be performed as part of a BACT determination is inextricably tied to a specific set of assumptions regarding the type of pollution control technology that will be in place at each facility. Any change in the control technology would require a reevaluation of those impacts and costs, which, in turn, might necessitate a change in the emission level (lower or higher than the previous one). Therefore, unless the type of control technology that will be used to achieve a particular emission limitation is identified and adhered to by the Applicant, the BACT determination is meaningless. Accordingly, an emission limitation in a PSD permit cannot be established without also relating it to the specific type of control technology that will be used to achieve the limitation.

In re CertainTeed Corp., 1 E.A.D. 743, 747 (Adm’r 1982) (footnote omitted). The Board has affirmed this position in its own jurisprudence. *See, e.g., In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 54 (EAB 2001) (BACT is an emission limit rather than a particular control technology, but the control technology is the means by which the BACT limit is achieved); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 128-29 (EAB 1999) (“[i]n reaching [a] facility-specific result, the emission limitations achieved by other facilities and corresponding control technologies used at other facilities are an important source of

information in determining what constitutes [BACT]”); *In re Metcalf Energy Ctr.*, Order Denying Review, PSD Appeal Nos. 01-07 & -08, at 14 (EAB Aug. 10, 2001) (CAA definition of BACT as an emission limit “does not mean * * * that the numerical BACT limitation for a particular facility must be determined in a vacuum. On the contrary, the hallmark of any BACT analysis is the process of comparing one facility with another, in terms of pollution control technologies employed, costs of compliance, collateral environmental, energy, and economic impacts, and so on.”), *aff’d*, No. 01-71611 (9th Cir. Nov. 21, 2002).

In this case, ACE has not brought to our attention any pollution control technologies or techniques that would be applicable to condensible PM/PM₁₀ emissions from the TS Power Plant’s PC boiler. Accordingly, ACE has not persuaded us that NDEP committed clear error in choosing not to establish a BACT limit – a technology-based limit, after all – for condensibles. *See Steel Dynamics*, 9 E.A.D. at 185-86 (rejecting argument that permit issuer had not conducted top-down BACT analysis for condensible PM, noting that after permit issuer claimed lack of knowledge of any large industrial facilities using condensible control technologies, petitioners failed to come forward with any rebuttal evidence).

4. Averaging Period

Finally, ACE contends that NDEP erroneously failed to respond to its comment that the 24-hour PM₁₀ averaging time is not BACT because a 24-hour averaging period is not as stringent as a 3-hour averaging period. *See Pet’n* at 43-44. ACE commented that the averaging time for pollutants for which compliance is determined via stack testing, such as PM, is normally the length of the stack test, which for PM is generally three one-hour tests for a total averaging time of three hours. ACE Comments at 33 (citing PSD permits from Iowa and Wisconsin with 3-hour rolling averaging periods for PM emissions). For its part, NDEP argues that it generally responded to ACE’s averaging-period-related comments and that it exercised its discretion to choose an appropriate averaging period. NDEP Resp. at 39-40 (citing RTC at ACE-21 to -22).

In our consideration of the record, we find that NDEP did respond to ACE's comments, although not directly to the specific point that a 24-hour averaging period is purportedly not as stringent as a 3-hour averaging period because the longer periods allow the facility to average out short-term spikes in emissions levels. NDEP stated, "The 24-hour limit is based on demonstrating compliance with the ambient air quality standards. It will be up to the operator to demonstrate ongoing compliance with the PM₁₀ emission limit using parametric monitoring (e.g., stack tests, continuous opacity monitoring, feed rate, and baghouse performance)." RTC at ACE-21 to -22.

On appeal, ACE contends that NDEP's failure to respond to its stringency point is a "clear basis" for a remand. Pet'n at 43. We do not agree. NDEP did, in fact, provide a brief response to ACE's comments pertaining to BACT for PM/PM₁₀ emissions from the PC boiler, including the statement that the 24-hour averaging period selected was chosen to demonstrate compliance with ambient air quality standards. ACE does not engage this idea on appeal, as it is obliged to do under the permitting rules if it wishes to obtain a remand of the permit. See 40 C.F.R. § 124.19(a) (petitioner must show that permit condition in question is based on finding of fact or conclusion of law that is clearly erroneous, or an exercise of discretion or important policy consideration the Board should review). Simply repeating its comments that a 3-hour average is more stringent than a 24-hour average, as ACE does on appeal, is not sufficient to justify a remand; rather, ACE must demonstrate some legitimate reason for faulting NDEP's decision in this instance to choose a BACT averaging period that is consistent with a NAAQS compliance averaging period. There is nothing in ACE's arguments or the record itself that provides us with such a reason, however.

We were faced with a similar set of circumstances in *In re Inter-Power of New York, Inc.*, 5 E.A.D. 130 (EAB 1994). In that case, the petitioner stated that a 24-hour rolling average selected for NO_x emissions was not sufficiently protective because the area was in "marginal attainment" for ozone, and thus the petitioner suggested that EPA Region II (the permit issuer) require a 3-hour rolling average instead. *Id.* at 151. Region II rejected a 3-hour rolling average on the ground that EPA had not promulgated an NAAQS based on a short-term

NO_x concentration. Instead, Region II said that the 24-hour rolling average BACT limit was consistent with the current NAAQS standard, “which is based on an annual average.” *Id.* at 152. The Board found that the petitioner had not provided any reason for questioning Region II’s conclusion in this regard and thus failed to demonstrate a basis for review of the NO_x limitation. *Id.* We follow that precedent here and hold that ACE failed to carry its burden of demonstrating clear error or other reason for us to grant review of this permit condition. Review is accordingly denied on this ground.

C. PM/PM₁₀ BACT for Fugitive Dust Emissions

Next, ACE commented below that NDEP must require BACT limits for fugitive dust emissions from the coal, ash, lime, and carbon handling operations, storage piles, roadways, and the like. ACE Comments at 46. ACE observed that the permit application contains estimated fugitive PM/PM₁₀ emissions from these various sources, assuming the use of specific control methods and control efficiencies, and suggested that these assumptions be designated as limits in the permit. *Id.* at 46-47 (citing Permit Appl. app. 5). NDEP responded:

The fugitive dust emission controls are based on [NDEP] experience and other information and are established as part of its guidance to applicants. It is extremely burdensome to attempt to set percent controls based on these estimates, and to incorporate them into a permit. Such an arrangement would require pre- and post-control emissions testing in order to demonstrate compliance, and that testing scheme would be extremely expensive and not reliable in the long run. Further, a facility cannot reasonably be expected to measure “pre-control” emissions for most of these water spray based controls. [NDEP] implements the compliance by requiring the installation of specific controls, as indicated (water sprays, compaction, partial enclosures, lowering well, etc.). The emissions are estimated, and modeling compliance with ambient standards is

demonstrated based on these factors. Operational requirements are appropriately based on the installation and operation of these controls. Emission estimates are established for fugitive sources for the purpose of assessing ambient air quality impacts and it is not necessary to establish a BACT based limit. However, the method for controlling fugitive dust is a BACT requirement.

RTC at ACE-29 to -30.

ACE challenges NDEP's response on appeal as "clear legal error." Pet'n at 45. In so doing, ACE simply repeats the general comments it submitted on the draft permit, which contain little legal or technical analysis of the relevant issues, and cites the NSR Manual as the sole authority for its position. *See id.* at 44-47 (citing NSR Manual at A.10-.11, .29-.30, for proposition that the PSD program applies to fugitive sources, potential-to-emit estimates must include fugitive emissions, and BACT must be specified for fugitive sources). This approach is clearly insufficient to justify a remand of the TS Power Plant permit. As noted above, it is well settled that mere repetition of comments on appeal cannot achieve a petitioner's goals in these kinds of permit proceedings. Instead, to obtain review of a permit decision, "petitioners must include specific information in support of their allegations. It is not sufficient simply to repeat objections made during the comment period; instead, a petitioner 'must demonstrate why the [permit issuer's] response to those objections (the [permit issuer's] basis for its decision) is clearly erroneous or otherwise warrants review.'" *In re Steel Dynamics, Inc.*, 9 E.A.D. 740, 744 (EAB 2001) (quoting *In re LCP Chems.*, 4 E.A.D. 661, 664 (EAB 1993)); *accord In re Peabody W. Coal Co.*, CAA Appeal No. 04-01, slip op. at 41-43 & n.58 (EAB Feb. 18, 2005), 12 E.A.D. __; *In re Tondu Energy Co.*, 9 E.A.D. 710, 714 (EAB 2001); *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 251-52 (EAB 1999). This is particularly the case where ACE repeats on appeal general comments on the proposed permit and fails to engage NDEP's detailed response to its comments in any way. ACE's failure to attempt to counter NDEP's response is fatal to its position on appeal. Accordingly, review is denied on this ground.

D. *Enforceability Issues*

We turn next to ACE's arguments pertaining to the enforceability of the final PSD permit. ACE devotes a substantial portion of its appellate brief to this topic and, in so doing, challenges numerous compliance provisions and NDEP's responses to comments thereon. As foundation for its arguments, ACE relies on EPA guidance set forth in the NSR Manual, which states:

To complete the BACT process, the reviewing agency must establish an enforceable emission limit for each subject emission unit at the source and for each pollutant subject to review that is emitted from the source. * * *

* * * BACT emission limits or conditions must be met on a continual basis at all levels of operation (e.g., limits written in pounds/MMbtu or percent reduction achieved), demonstrate protection of short term ambient standards (limits written in pounds/hour), and be enforceable as a practical matter (contain appropriate averaging times, compliance verification procedures and recordkeeping requirements).

NSR Manual at B.56; *see* Pet'n at 53 (quoting NSR Manual).

ACE submitted comments criticizing the PSD permit in multiple areas for failing to meet these enforceability standards. ACE argued, among other things, that: (1) the PM₁₀ BACT limit for the PC boiler is not enforceable; (2) emissions limits on VOCs and sulfuric acid mist are not enforceable; (3) emissions during PC boiler startup and shutdown are excused from BACT compliance; (4) the monitoring frequencies for numerous emissions limits are not adequate to ensure enforceability and such testing as exists is not representative of routine operations; (5) emissions limits are not practically enforceable; (6) the BACT and other emissions limits for the materials handling operations are not enforceable; and (7) recordkeeping and reporting requirements are inadequate to ensure continuous compliance. NDEP attempted to address

each of these issues in its response to comments but, on appeal, ACE challenges the Division's responses and seeks a remand for further consideration of the permit conditions. We evaluate the parties' arguments below.

1. *Enforceability of the PM/PM₁₀ BACT Limit for the PC Boiler*

To begin, ACE argues that NDEP failed to incorporate adequate provisions in the permit to ensure the enforceability of the PM/PM₁₀ BACT limits on PC boiler emissions. ACE attacks this issue from three different angles, discussed below. First, ACE contends that the 24-hour rolling average particulate limits are not enforceable on a continuous basis under the permit. Second, ACE finds fault with the permit provisions mandating hourly PM/PM₁₀ emissions calculations, claiming these provisions constitute a novel and unenforceable surrogate for PM/PM₁₀ monitoring. Third, ACE argues that the permit should require installation of a continuous emissions monitor system ("CEMS") for particulate emissions from the PC boiler and that NDEP erred by failing to include this requirement in the permit.

a. *Continuous Enforceability*

In comments on the draft permit, ACE took the position that the PM₁₀ BACT limit based on a 24-hour rolling average is not enforceable as a practical matter because the permit requires only two stack tests to measure actual PM₁₀ emissions, one shortly after boiler startup and the second approximately a year later. ACE Comments at 41. ACE argued that it is impossible to calculate a 24-hour rolling average on a continuous basis using only two data points collected over thirty-plus years of plant operation. *Id.* at 33. In response to these comments, NDEP pointed out that the TS Power Plant will not have just two performance tests over its operational lifetime. The Division explained that the plant will be required to comply with regulatory requirements for periodic monitoring on an ongoing basis, including abiding by the terms of a Compliance Assurance Monitoring plan and conducting periodic source tests pursuant to specifications that will be set forth in a CAA Title V operating permit that NNEI will have to obtain subsequent to the PSD permit. *See* RTC at ACE-21. In this regard, NDEP noted that the

PSD permit is only “a short-term permit designed to allow a facility to construct and establish and refine the operating parameters and emission limits,” whereas the Title V permit will contain long-term obligations for the facility. *Id.* at ACE-26. NDEP also explained that “[i]t will be up to the operator to demonstrate ongoing compliance with the PM₁₀ emission limit using parametric monitoring (e.g., stack tests, continuous opacity monitoring, feed rate, and baghouse performance).” *Id.* at ACE-21 to-22.

On appeal, ACE argues that the CAA Title V program does not replace a PSD permit issuer’s obligation to issue a complete PSD permit containing BACT limits that are practically enforceable, on a continuous basis and at all levels of operation, during the duration of that preconstruction permit. Pet’n at 57. NDEP finds no fault with ACE’s position in this regard, but the Division insists that the PM₁₀ BACT provisions of the final PSD permit are appropriately enforceable. NDEP Resp. at 56-59. The Division contends that in addition to calling for the two stack tests ACE criticizes, the permit also requires that NNEI: (1) install a continuous opacity monitoring system (“COMS”) and a continuous data collection system to measure and record opacity levels on a continuous basis; (2) calculate hourly PM₁₀ emission rates for each day of boiler operation; (3) conduct visible emission inspections; and (4) monitor baghouse performance. *Id.* at 58 (citing Permit §§ V.A.4.b(11)-(12), V.A.4.c(5), V.E.4.a, V.F.4.a, at V-7 to -8, -10, -25, -27).

Upon consideration, we find that the final PSD permit for the TS Power Plant contains a substantial number of compliance monitoring and recordkeeping obligations that, taken together, will ensure the PM/PM₁₀ BACT emissions limits are fully enforceable on a continuous basis. As the operator of the TS Power Plant, NNEI must install a coal mass measurement device and a continuous data collection system to continuously measure and record the amount of coal combusted in the PC boiler. Permit § V.A.4.b(1)-(2), at V-6. NNEI must sample the coal on a daily basis and determine its moisture, ash, and sulfur content and gross calorific value, and then record that information as 24-hour and 30-day rolling periods. *Id.* § V.A.4.b(3)-(4), at V-6. Within 180 days of initial startup of the PC boiler, or within 60 days of achieving the maximum rate of production, whichever is sooner, NNEI must conduct a performance

test on the boiler. *Id.* § V.A.4.a, at V-4. NNEI must conduct a second performance test after 7,000 hours of additional operation, but no later than 8,760 hours (i.e., one year), following the initial test. *Id.* During these tests, NNEI must sample the pollutant content of boiler emissions, including PM/PM₁₀ concentrations, using EPA-approved methods. *Id.* § V.A.4.a(1)-(2), at V-4. NNEI must then derive emission factors, in pounds of PM/PM₁₀ emitted per ton of coal burned, filterable only and filterable and condensible combined, on the basis of data gleaned from the stack tests and the daily coal measurements. *Id.* § V.A.4.a(14), at V-5. For every day the PC boiler is operating, NNEI must calculate and record the hourly emissions rates of PM and PM₁₀, in lb/MMBtu and pounds per hour (“lb/hr”), on the basis of the heat content of the tons of coal burned and the emission factor, which themselves are derived from the continuous coal mass and content measurements described earlier. *Id.* § V.A.4.c(5), at V-10. On the basis of this information, it becomes a simple mathematical exercise to compute an average level of PM and PM₁₀ emissions for any 24-hour period, thus demonstrating achievement or lack of achievement of PM/PM₁₀ BACT limits.

We find no clear error or other reason to remand in a case where, as here, the permit contains fully adequate compliance monitoring provisions. *See In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 219-20, 222, 225, 231-34 (EAB 2000) (no clear error shown in series of enforceability challenges where compliance monitoring provisions appear adequate). We also decline to remand on the basis of NDEP’s response to ACE’s comments, which, while focused perhaps unduly on continuous opacity monitoring and the Title V operating permit, did note that NNEI would be obliged to demonstrate ongoing compliance using parametric methods such as coal feed rate. *See In re Peabody W. Coal Co.*, CAA Appeal No. 04-01, slip op. at 39-40 n.69 (EAB Feb. 18, 2005), 12 E.A.D. ____ (where record shows permit issuer evaluated issue, even while failing to directly respond to particular comment on that issue, remand is not appropriate); *In re Kendall New Century Dev.*, PSD Appeal No. 03-01, slip op. at 13 n.13 (EAB Apr. 29, 2003), 11 E.A.D. ____ (absence of “direct response” to particular comment not ground for remand where permit issuer’s general explanation in response to comments was sufficient to articulate basis for decision); *In re Hillman Power Co.*, 10 E.A.D. 673, 696 (EAB 2002) (denying review where permit issuer provided no

specific response to comments presenting soil sampling data but where administrative record made clear that permit issuer had considered impacts of emissions on soils). Review is denied on this ground.

b. Hourly PM/PM₁₀ Emission Calculations as Surrogate Monitor

As just mentioned, the permit requires NNEI to calculate and record hourly average PM/PM₁₀ emissions on the basis of stack test and coal monitoring data. ACE submitted comments challenging these provisions (and similar provisions relating to the combustion turbines) as constituting a novel, unenforceable “surrogate” compliance method for PM/PM₁₀ emissions. *See* ACE Comments at 97-98. NDEP responded by stating that the permit “adequately addresses compliance requirements,” that a COMS will be used as a “surrogate compliance demonstration method for PM/PM₁₀ emissions,” and that it is “common practice” for surrogates to be used in demonstrating compliance with emissions limits that are not directly measured.¹⁶ RTC at ACE-62.

On appeal, ACE argues that NDEP’s answer to its comments is wholly nonresponsive and thus grounds for a remand. Pet’n at 86-89. In support of this position, ACE repeats four objections it had raised during the public comment period. First, ACE points out that the permit fails to explicitly identify, as a BACT violation, any PM/PM₁₀ emissions rates that are calculated in accordance with the surrogate method and found to exceed the PM/PM₁₀ BACT limits. *Id.* at 87. NDEP responds by stating, “[I]t goes without saying that an exceedance of a permit limit can constitute a violation of the permit.” NDEP Resp. at 64. The Division

¹⁶ In its response brief, NDEP explained that “‘unlike other CEMS[s], PM CEMS[s] do not provide a direct measurement of the target pollutant (i.e., PM).’” NDEP Resp. at 62 n.27 (quoting 69 Fed. Reg. 1786, 1791 (Jan. 12, 2004)); *see also* Office of Air Quality Planning & Standards, U.S. EPA, EPA-454/R-00-039, *Current Knowledge of Particulate Matter (PM) Continuous Emission Monitoring* §§ 3.1-.5, 7.1, at 3-1 to -5, 7-2 (Sept. 2000) (discussing five analytical principles used to measure PM concentrations: light scattering, beta attenuation, probe electrification, light extinction, and optical scintillation; noting that the accuracy limitations or “confidence interval” of a PM CEMS should be considered when setting an emission limit).

further contends that beyond this “unspoken premise,” the permit does expressly provide that any noncompliance constitutes a violation and is grounds for enforcement or termination of the permit. *Id.* (citing Permit § I.F, at I-1).

Second, ACE argues that there is “no evidence” of a relationship between PM/PM₁₀ and coal feed rates and “many reasons to suspect there is none,” such as, for example, that, in ACE’s view, PM/PM₁₀ emissions are related to the ash and sulfur content of coal and not its feed rate. Pet’n at 88. NDEP responds that there is “no evidence whatsoever” that the controlled PM/PM₁₀ emissions from the PC boiler would vary with ash and sulfur content, as ACE suggests, and thus ACE has failed to establish flaws in the method the Division selected to calculate PM/PM₁₀ emission factors. NDEP Resp. at 64-65. NDEP also contends that “ACE’s position overlooks the fact that the use of stack-tested emission factors is an extremely common method of demonstrating compliance with emission limits.” *Id.* at 65.

Third, ACE posits that even if there is a relationship between particulate emissions and coal feed rate, the permit lacks any requirement for NNEI to revisit the ratio determined in the initial stack tests if coal inputs or operating modes change in the future. Pet’n at 88. NDEP did not respond to this comment below and similarly does not do so on appeal. Fourth and finally, ACE argues that stack tests are not representative of routine operating conditions and thus a continuous emissions monitor for filterable PM should be required. *Id.* As discussed in Part II.D.1.c below, NDEP responded at length to this argument and disagreed that a PM CEMS would be an appropriate monitoring mechanism in this case.

We find that ACE has not met its burden of demonstrating that NDEP’s use of hourly calculations in demonstrating PM/PM₁₀ emission rates constitutes clear error. The Division made a technical judgment that hourly calculations could adequately monitor PM/PM₁₀ emissions, and ACE has not come forward with any specific factual or legal evidence that NDEP’s judgment is erroneous. *Cf., e.g., In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 26-29, 34 (EAB June 21, 2005), 12 E.A.D. __ (denying review where petitioner failed to carry heavy

burden of establishing clear error in permit issuer's technical analyses); *In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 50-52 (EAB 2001) (same). Although we have no answer in the response to comments or on appeal to the question regarding revisiting PM/PM₁₀ emissions factors at various points in the future, we also have no legitimate basis (evidentiary or otherwise) on this record for believing NDEP's decision to discount that concern is erroneous or an abuse of discretion.¹⁷ Again, we will defer to the permitting authority's technical expertise in such a situation. *See Peabody*, slip op. at 39-40 n.69, 12 E.A.D. __; *Kendall*, slip op. at 13 n.13, 11 E.A.D. __; *Hillman*, 10 E.A.D. at 696. As to ACE's contention that the permit is defective for its failure to explicitly state that exceedances of permit emissions limits constitute violations, we agree with NDEP that enforceability is not dependent on such an express statement. Review is denied on these grounds.

c. PM/PM₁₀ CEMS

Lastly, ACE points out that in comments on the draft permit, it had argued that NNEI should be required to install a CEMS to monitor filterable particulates on a continuous basis. ACE argued that EPA has promulgated performance standards for PM CEMSs, that such CEMSs have been used for years in Germany, England, Denmark, and Canada, including some applications to coal-fired power plants, and that in the United States, at least one recently permitted coal-fired power plant (Longview in West Virginia) has been required to install a PM CEMS, while other PM CEMSs have been installed as conditions of consent decrees between the United States and certain energy companies. ACE Comments at 91-93.

¹⁷ Moreover, ACE's charge that the coal source/quality or boiler operating mode will change in the future is speculative, unsupported by any facts in the record whatsoever. *See* ACE Comments at 98; Pet'n at 88. If such changes were to occur, NDEP retains discretion to modify the Title V operating permit to require monitoring as necessary to meet the requirements of the CAA. *See infra* note 20 and accompanying text (explaining circumstances in which NDEP may modify Title V operating permit to add monitoring conditions).

In response to ACE's comments, NDEP stated that neither the CAA nor Nevada regulations require the use of CEMSs for particulate emissions monitoring. RTC at ACE-59. NDEP claimed that "[o]ther regulatory agencies have also indicated that PM CEMS[s] are not advanced enough to provide reliable and accurate data at a reasonable cost," and that "at this time" it would not require a PM CEMS at the TS Power Plant. *Id.* The Division then noted that NNEI would be obliged to install a COMS, which, it claimed, can serve as an acceptable surrogate for PM, and that NNEI would have to conduct annual PM/PM₁₀ performance tests. *Id.* Finally, NDEP cited a recent *Federal Register* notice in which EPA explained that while COMSs "cannot directly measure PM emissions," a "properly calibrated and maintained COMS is sufficient to demonstrate long[-]term PM control device performance, since the purpose of the monitoring is to demonstrate with reasonable certainty that the PM control device is operating as well as it did during the PM emissions test used to demonstrate compliance." 70 Fed. Reg. 7905, 7908 (Feb. 16, 2005), *quoted in* RTC at ACE-59.

On appeal, ACE raises a series of objections to NDEP's response to its comments. *See* Pet'n at 65-73. ACE believes that NDEP's assertion that PM CEMSs are not advanced enough to provide reliable data at a reasonable cost is unsupported by the record, Pet'n at 67, that the *Federal Register* notice purporting to establish EPA's view that COMSs are an adequate surrogate monitoring system for PM/PM₁₀ emissions is irrelevant in this coal-fired boiler context, *id.* at 66, 68-69, and that under the NSR Manual, NDEP must require CEMSs where feasible. *Id.* at 66-67. ACE goes on to provide several reasons why, in its view, a COMS is not sufficient to monitor compliance with the PM/PM₁₀ BACT emissions limits on a continuous basis. *See id.* at 69-72.

In turn, NDEP defends itself by, among other things, citing several of its responses to ACE's comments and arguing that under the CAA and implementing regulations, it has discretion in deciding what kind of monitoring is appropriate in this case. *See* NDEP Resp. at 59-61 (citing RTC at ACE-21 to -22, -58 to -59). The Division takes the position that ACE's foreign facility examples are insufficiently detailed to provide the evidence needed to make a finding of PM/PM₁₀ CEMS feasibility in this particular case. *Id.* at 61. The Division also defends its

use of the *Federal Register* notice, arguing that “EPA’s rationale regarding the general propriety of CEMS versus COMS in monitoring for PM is persuasive,” regardless of the fact that EPA was commenting in the context of hazardous air emissions from lime plants and not PM emissions from coal-fired boilers. *Id.* at 62-63.

All things considered, we again find it appropriate to defer to NDEP’s technical expertise regarding the application of PM/PM₁₀ CEMSs to the TS Power Plant’s PC boiler. In our view, NDEP considered and provided a reasonable response to ACE’s comments on this topic, and ACE has failed to come forward with sufficient evidence on appeal to cause us to question the Division’s analytical conclusions regarding particulate monitoring.¹⁸ See *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 194 (EAB 2000) (“[W]here an alternative control option has been evaluated and rejected, those favoring the option must show that the evidence “for” the control option clearly outweighs the evidence “against” its application.”) (quoting *In re Inter-Power of N.Y., Inc.*, 5 E.A.D. 130, 144 (EAB 1994)). While PM/PM₁₀ CEMSs may become standard technology in the future, at the moment there is no legal requirement that they be installed on new coal-fired boilers in the United States. The fact that they may be installed on some foreign and domestic coal-fired boilers does not mean that they must be installed in every allegedly similar case, including this one. As discussed above, the TS Power Plant’s permit provides other avenues for ensuring the

¹⁸ With respect to the COMSs issue, the document ACE cites to support its foreign facility use of PM CEMSs states:

For the EPA’s emission monitoring regulations and State Implementation Plans (SIP), opacity is used as a surrogate for PM emissions and provides *qualitative* information on the operation and maintenance of particulate control equipment.

Office of Air Quality Planning & Standards, EPA, EPA-454/R-00-039, *Current Knowledge of Particulate Matter (PM) Continuous Emission Monitoring* § 2.1, at 2-1 (Sept. 2000) (emphasis added). There really is no dispute that the COMS data NNEI will collect will be used to provide just this – *qualitative* information on basic technological performance – whereas the hourly average calculations will provide the *quantitative* information needed to establish compliance with the BACT limits.

PM/PM₁₀ BACT limits are complied with on a continuous basis, and we find no clear error or other reason to remand the permit on this ground. Review is accordingly denied.

2. Monitoring of VOC and Sulfuric Acid Mist Emissions

ACE argued below that indirect or surrogate emissions monitoring should be specified when adequate direct monitoring is not feasible. ACE Comments at 94-95. ACE noted that “[c]ommonly used surrogates” include CO for VOC emissions and SO₂ for acid gas emissions such as sulfuric acid mist. *Id.* at 94. ACE therefore suggested that NDEP require the use of these surrogates to determine continuous compliance with emissions limits on VOCs and sulfuric acid mist, among others. *Id.* In response, NDEP stated merely that the permit “adequately addresses compliance requirements.” RTC at ACE-60. ACE believes this cursory response warrants a remand with respect to VOCs and sulfuric acid mist emissions.

We do not agree. At the outset, we note that the TS Power Plant’s potential to emit VOCs falls below the PSD significance level of forty tons per year. *See* NDEP Appl. Review tbls. 4-1 & -2, at 9 (potential-to-emit tables showing that potential VOC emissions from the TS Power Plant will not exceed PSD significance level); 40 C.F.R. § 52.21(b)(23)(i) (significance level for VOCs, the proxy for ozone, is 40 tpy). As a result, the permit’s regulation of VOCs is not a PSD issue that is properly before this Board. *See* CAA § 165(a)(4), 42 U.S.C. § 7475(a)(4); 40 C.F.R. § 52.21(j)(2), .21(m)(1)(i)(a) (new major stationary source must apply BACT and conduct ambient air quality analysis for each regulated new source review pollutant that it has potential to emit in significant amounts). Thus, we will not further consider any arguments pertaining to the enforceability of VOC emission limits. *See In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 254 (EAB 1999) (where potential to emit lead is below PSD significance level, PSD BACT and ambient air quality analyses for lead are not required); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 125 (EAB 1999) (emissions of air pollutants that do not exceed PSD significance levels are not subject to PSD review).

As for sulfuric acid mist, we note that the permit has extensive monitoring requirements for SO₂ emissions, which, as just mentioned, ACE itself admitted is a commonly used surrogate for sulfuric acid mist emissions. The monitoring methods include, among other things, the use of an SO₂ CEMS and a continuous data collection system to continuously measure and record the concentration and percent reduction of SO₂ in parts per million and the SO₂ mass emissions in lb/hr and lb/MMBtu from the PC boiler, on a 1-hour, 3-hour, 24-hour, and 30-day basis. *See* Permit § V.A.4.b(5)-(6), at V-6 to -7. Moreover, the BACT technology chosen for sulfuric acid mist is the same dry scrubber technology selected for controlling SO₂ emissions. *See* Permit Appl. app. 10, ¶¶ 10.5.5, 10.8.5, at 10-17, -27. Accordingly, the SO₂ monitoring provisions will ensure effective operation of the dry scrubber, which will also ensure that emissions of sulfuric acid mist are adequately controlled. Review is denied on these grounds.

3. Emissions During Startup and Shutdown Periods

ACE commented that the draft permit appeared to exempt periods of PC boiler startup and shutdown from compliance with BACT emission limits. To support this allegation, ACE singled out two small fragments of the permit. First, in a long section establishing numerous compliance/performance testing (i.e., stack testing) requirements, the draft permit provided, “Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard * * *.” Draft Permit § V.A.4.a(1), at V-5 (cited in ACE Comments at 51). Second, in the section setting forth emission limitations, the draft permit specified that VOC emissions could not exceed a certain level “during normal boiler operations.” *Id.* § V.A.2.a(16), at V-2 (cited in ACE Comments at 51). NDEP responded to ACE’s comments by explaining that NNEI will be obliged to comply with all limits in the permit at all times the PC boiler is operating, including periods of startup and shutdown. RTC at ACE-34.

ACE complains on appeal that NDEP largely ignored its comments, as the Division did not change the final permit in any way to address BACT compliance concerns during startup and shutdown. Pet’n

at 49-51. NDEP responds by asserting that ACE's claims are "simply untrue" because the permit does not, in fact, exempt startup/shutdown periods from BACT compliance. NDEP Resp. at 68. NDEP reminds us that VOCs do not qualify as a PSD pollutant in this case because the facility's potential to emit VOCs is below the PSD significance level, and thus the Board has no jurisdiction over the VOCs provision ACE cites. *Id.* NDEP also concedes that the stack test provision is properly before this Board, but, because the provision merely specifies the conditions under which performance testing is to be conducted, the provision does not support ACE's interpretation of it as an exemption from BACT limits. *Id.*

NDEP has the better arguments in this instance. We agree that the VOCs provision is not properly before us because it is not required by the PSD regulations. *See Encogen*, 8 E.A.D. at 254; *Knauf I*, 8 E.A.D. at 125. We also agree that the stack testing provision does not exempt the facility from complying with BACT limits during startup and shutdown. *See In re Indeck-Niles Energy Ctr.*, Order Denying Review, PSD Appeal No. 04-01, slip op. at 10-19 (EAB Sept. 30, 2004) (denying review where compliance with BACT limits required during startup/shutdown periods); *see also In re RockGen Energy Ctr.*, 8 E.A.D. 536, 551-55 (EAB 1999) (remanding PSD permit where compliance with BACT limits excused during startup/shutdown); *In re Tallmadge Generating Station*, Order Denying Review in Part & Remanding in Part, PSD Appeal No. 02-12, slip op. at 22-28 (EAB May 21, 2003) (same). Review is therefore denied on this ground.

4. Stack Testing Provisions

ACE commented that the stack testing requirements in the permit are inadequate because: (1) no stack testing is required for Systems 7, 10, and 11 (i.e., the silos for handling fly ash, lime, and carbon); (2) only one or two stack tests are required over the life of the facility for the rest of the systems; and (3) the testing is not required under worst-case conditions. Pet'n at 59-65; *see* ACE Comments at 88-91. NDEP responded by pointing out that the Title V operating permit will contain periodic stack testing requirements over the life of the facility, that CEMSs and COMSs will be installed on various emissions units to

monitor various pollutant emissions on an ongoing basis, and that all stack tests will be conducted in accordance with applicable EPA methods. RTC at ACE-57 to -58.

On appeal, ACE criticizes NDEP's response to its comments, claiming that the Division did not modify the final permit to require monitoring that would ensure continuous enforceability, in accordance with its comments. Pet'n at 61-62. ACE also complains that NDEP did not provide any response at all to its concern that stack testing is not required under worst-case conditions and thus will not provide data that are representative of routine operations, including periods of startup, shutdown, and soot blowing (the latter of which is used to clean the boiler tubes). *Id.* at 63-65. ACE believes these flaws warrant a remand of the permit.

NDEP, not surprisingly, does not agree. First, the Division asserts that whether stack testing is appropriate for a particular emissions unit is a discretionary judgment made on a case-by-case basis. NDEP Resp. at 65. NDEP notes that the record bears witness to its decision that stack testing is not appropriate for the fly ash, lime, and carbon silos, which are controlled by bin vent filters with a 100% capture rate. Instead, the Division concluded that a better approach would be to require weekly inspections of the bin vent filters, monthly visual emissions inspections, and monitoring of silo loading and unloading rates. *See* Permit §§ V.G.4.a, V.J.4.a, V.K.4.a, at V-29, -35, -37.

Second, NDEP argues that for each of the remaining emission units identified by ACE as lacking adequate monitoring to establish compliance with BACT limits, the final PSD permit requires not only stack testing but also some combination of opacity monitoring, parameter monitoring, fuel testing, control equipment inspection, and/or recordkeeping. NDEP Resp. at 66. Indeed, NDEP claims that it has included in the permit "an entire suite of compliance monitoring provisions applicable to the multiple emission units at the TS Plant." *Id.* The Division takes the position that ACE's dissatisfaction with the degree of compliance monitoring in the permit is "unreasonable" and fails to show clear error in NDEP's approach. *Id.*

Third, with respect to stack testing under worst-case conditions, NDEP argues that neither state nor federal regulations require this kind of testing. *Id.* at 67. The Division believes it responded adequately to ACE's comments on this topic by pointing out that stack tests will be conducted in accordance with applicable EPA test methods, "which implicitly include[] th[e] regulatory requirement of representative operating conditions." *Id.*

Upon consideration, we are persuaded that ACE has failed to carry its burden of establishing clear error or other reason to remand the permit on these grounds. With respect to the fly ash, lime, and carbon silos, the permit clearly lays out all the monitoring provisions NDEP enumerates, including weekly inspections of the bin vent filters (which ACE does not dispute have a 100% capture rate), monthly visual emissions inspections, and monitoring of silo loading and unloading rates when those activities occur. *See* Permit §§ V.G.4.a, V.J.4.a, V.K.4.a, at V-29, -35, -37. We are aware that the permit also contains specific numeric PM/PM₁₀ and opacity limits for each of the silos (e.g., opacity may not equal or exceed 20%; PM/PM₁₀ may not exceed 0.598 lb/hr from the fly ash silo, 0.135 lb/hr from the lime silo, or 0.085 lb/hr from the carbon silo, et cetera). *See* Permit §§ V.G.2, V.J.2, V.K.2, at V-28, -34 to -36. It is simply not enough, however, for ACE to assert that ongoing stack tests or other measures should be taken to ensure continuous compliance with these limits. NDEP made a technical judgment that stack tests are not appropriate for these three silos, and ACE cannot overcome that judgment unless it comes forward with specific evidence explaining why the chosen measures are inadequate and why other measures would be more appropriate in this factual context. This it failed to do.

Next, with respect to all the systems ACE claims will be monitored only by a stack test or two during the first year of operation, analysis of the permit again reveals this argument to be mistaken. As NDEP notes, the permit provides a "suite" of compliance monitoring provisions for all of these emissions units. We have already covered some of these provisions in detail, including the PM/PM₁₀ and SO₂ (and, by proxy, sulfuric acid mist) emissions monitoring and recordkeeping requirements for the PC boiler. *See supra* Parts II.D.1-.2; Permit

§ V.A.4.a, .b(1)-(6), .c(5)-(6), at V-4 to -7, -10. Similar provisions are included in the permit for emissions from the combustion turbines. *See* Permit § V.B.4.a, .b(1)-(3), .c(6)-(8), at V-13 to -15, -17 to -18. VOC emissions from the various units are not of concern in this PSD case, as explained in Part II.D.2 above, so they need not be considered here. Finally, we find again that NDEP made technical judgments about appropriate compliance monitoring and recordkeeping provisions for these emissions units, and ACE has failed to carry its burden of identifying specific evidence that demonstrates inadequacies in the chosen measures.

Lastly, we agree that there is no legal requirement that stack testing be conducted under worst-case conditions that would necessarily include periods of startup, shutdown, and/or soot blowing, contrary to ACE's belief. In one of our prior cases, EPA's Office of Air and Radiation explained that the Agency "traditionally does not allow representative stack testing during non-representative time periods, such as startup periods, because facilities have fluctuating emission characteristics during these non-representative periods." *In re Steel Dynamics, Inc.*, 9 E.A.D. 740, 763 n.8 (EAB 2001). This does not mean, of course, that BACT limits are waived during those periods; it simply means that the Agency is interested in ensuring that sources are operating at normal representative operating levels during performance tests and that startup/shutdown periods generally do not provide such levels. *See In re RockGen Energy Ctr.*, 8 E.A.D. 536, 551-55 (EAB 1999); *In re Tallmadge Generating Station*, Order Denying Review in Part & Remanding in Part, PSD Appeal No. 02-12, slip op. at 22-28 (EAB May 21, 2003). For all these reasons, ACE's arguments fail, and review is denied on these grounds.

5. *Form of Emissions Limits*

Next, ACE argued below that to establish practically enforceable BACT limits, a permit must designate two emissions limitations per pollutant: (1) a pollutant mass-per-unit-time limit (e.g., pounds per hour or tons per year) to restrict emissions at maximum operating capacity; and (2) a pollutant mass-per-unit-process limit (e.g., lb/MMBtu, lbs/ton, ppm) to restrict emissions at any operating capacity. *See* ACE Comments

at 95-96. To support this position, ACE relied on numerous provisions of the NSR Manual, including the following passage:

In general, it is best to express the emission limits in two different ways, with one value serving as an emissions cap (e.g., lbs/hr.) and the other ensuring continuous compliance at any operating capacity (e.g., lbs/MMBtu). The permit writer should keep in mind that the source must comply with both values to demonstrate compliance.

NSR Manual at H.5, *quoted in part in* ACE Comments at 96. ACE claimed that the permitted limits for VOC, lead, mercury, sulfuric acid mist, sulfur, SO₂, PM, and PM₁₀ emissions from the PC boiler and/or combustion turbines, as well as the limits for the diesel firewater pump, are expressed only in lb/hr and thus are not enforceable on a continuous basis at all levels of operation. *Id.* at 95-96. ACE recommended that the permit be revised to incorporate lb/MMBtu or ppm limits in addition to the lb/hr limits, and it also suggested that averaging times be added to the lb/hr limits. *Id.* at 96. NDEP responded by stating that:

There is no requirement that additional permit limits or averaging times be imposed. It is widely accepted that for those constituents not continuously monitored, their compliance is demonstrated by the duration of the stack test. [NDEP] does not need to state the duration of the stack test as a required averaging period for these pollutants.

RTC at ACE-61.

On appeal, ACE cites the NSR Manual as its primary authority and maintains that NDEP clearly erred by failing to incorporate dual limits and averaging times in the final permit. *See* Pet'n at 82-86 (citing NSR Manual at B.56, H.5, I.2, I.4, c.4). For its part, NDEP begins by pointing out that any permit conditions related to mercury, sulfur, VOCs, or lead are not properly before this Board, as mercury is a hazardous air pollutant not subject to PSD review, sulfur is not a PSD pollutant, and

VOCs and lead will not be emitted by the TS Power Plant in quantities significant enough to trigger PSD review for those air contaminants. *See* NDEP Resp. at 75-76. NDEP also notes that contrary to ACE's assertion, the permit does in fact contain limits for PM/PM₁₀ emissions from the combustion turbines in lb/MMBtu as well as lb/hr. *Id.* (citing Permit § V.B.2.a, at V-11). ACE's remaining claims therefore pertain only to: (1) sulfuric acid mist emissions from the PC boiler; (2) SO₂ and sulfuric acid mist emissions from the combustion turbines; and (3) PM/PM₁₀, SO₂, NO_x, and CO emissions from the diesel firewater pump.

With respect to these claims, NDEP turns to the Board's prior PSD decision in *In re Steel Dynamics, Inc.*, 9 E.A.D. 165 (EAB 2000), in which the Board found no clear error in a permit authority's decision to assign only a lb/hr limit to SO₂ emissions from an electric arc furnace. The permit did not require any add-on technology to control SO₂ emissions but only limited the fuel sulfur content. EPA's Office of Air and Radiation, acting as amicus curiae in that case, expressed the Agency's opinion that the purpose of requiring dual limits is simply to ensure emissions are controlled regardless of the production rate or operational conditions at a facility. The Agency argued that dual limits were not needed in that case, for the following reason:

"Because controls are not applied to reduce SO₂, production limits [e.g., lbs/ton or lb/MMBtu] are not necessary to prevent the source from attempting to meet the hourly limit by reducing production while using a less effective control. Likewise, the raw content limits prevent the source from gaming production levels to allow burning of high sulfur-content raw materials."

Steel Dynamics, 9 E.A.D. at 222 n.64 (quoting EPA Office of Air & Radiation Amicus Curiae Brief). The Board agreed with that explanation and declined to remand the SO₂ limit. *See id.* at 220-25.

NDEP argues that in this case, as in *Steel Dynamics*, the final permit has no add-on pollution controls for SO₂ or sulfuric acid mist emissions from the combustion turbines or for any of the emissions from

the diesel firewater pump. NDEP Resp. at 76-77. Instead, the permit simply requires the use of low-sulfur fuel for these units and also limits the hourly consumption of #2 diesel fuel by the firewater pump. *See* Permit §§ V.B.3.a, V.B.4.b(5)-(6), V.O.3, at V-13, -15 to -16, -42. NDEP therefore contends that there is no need to add lb/MMBtu limits to the permit for emissions from these units, as compliance with the requirements to use certain types of fuel is independent of the firing rate of the units. NDEP Resp. at 76-77.

With respect to sulfuric acid mist emissions from the PC boiler, NDEP points out that the control device used to limit such emissions (the lime spray dry scrubber) is the same device used to control SO₂ emissions from the unit. *Id.* at 77. The Division then notes that the permit contains lb/hr and lb/MMBtu limits for SO₂ emissions, reminds us that SO₂ monitoring serves as surrogate monitoring for sulfuric acid mist emissions, and argues that the lb/MMBtu production limit will ensure NNEI does not reduce production to compensate for less-efficient scrubber performance. *Id.* NDEP therefore contends that ACE's objections do not warrant a remand. *Id.*

We agree with NDEP that there is no merit to any of ACE's contentions in this regard. *See, e.g., In re Hillman Power Co., L.L.C.*, 10 E.A.D. 673, 682 & n.7 (EAB 2002) (discussing air pollutants not regulated under PSD program). ACE has not persuaded us of any clear error on NDEP's part in analyzing these issues and establishing reasonable permit conditions to monitor compliance with emissions limitations. *Cf. In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 219-25 (EAB 2000). Review is therefore denied on this ground.

6. *Enforceability of BACT Limits for Materials Handling Operations*

ACE commented that the draft permit did not require adequate monitoring to demonstrate compliance with specific numeric PM/PM₁₀ emission limitations set forth in the permit for materials handling operations involving coal, fly ash, bottom ash, recycle ash, lime, and carbon. *See* ACE Comments at 49-50. As noted earlier, the permit called for monitoring of the quantity of material handled, weekly-to-monthly

visual observations of opacity emissions from the various units, and periodic inspections of emissions control equipment using manufacturer operation and maintenance (“O&M”) guidelines. ACE argued on three primary grounds that these provisions failed to allow for enforcement of the particulate limits. First, ACE asserted that periodic visual emissions inspections are incapable of establishing the TS Power Plant’s compliance with numeric particulate emissions limits at any one time or continuously. ACE objected in particular to the provisions that specified that if any visible emissions were observed, NNEI would have twenty-four hours within which to conduct a formal EPA “Method 9” visible emissions test, rather than being required to conduct the test immediately. Second, ACE argued that single stack tests for two of the coal handling operations within a few months of startup are incapable of establishing continuous compliance over a thirty-year facility operating lifetime. Third, ACE argued that the manufacturer O&M guidelines are not summarized in the permit, which precludes public review of those guidelines and renders the equipment inspection requirement unenforceable. *Id.*

NDEP considered all of ACE’s comments and stated the following with respect to the visible emissions inspections issues:

For the units under review, if the control operations were to fail (whether water sprays, baghouses, or other methods) the opacity of those emissions would dramatically stand out as something requiring correction. The permit requires the facility to maintain the opacity limits as specified in the General Conditions [(i.e., below 20%)]. The observations of opacity are generally accepted as indications of emissions concerns. Compliance can reliably be demonstrated using this approach. A 24-hour response period has generally been adequate to ensure controls; however, the facility has the duty to correct any exceedences as soon as practicable, which may be sooner than 24 hours.

RTC at ACE-32. With respect to the stack test questions, NDEP noted that periodic stack testing requirements would be included in the Title V

operating permit rather than this short-term PSD permit. *Id.* And finally, with respect to the O&M question, the Division explained that because this is a PSD project and the final design and construction parameters are not yet fully known, “it would be premature to include the manufacturer specifications” in the PSD permit. *Id.* NDEP stated, “Manufacturer’s specifications can be more completely spelled out in an operating permit, once the specific manufacturer is known.” *Id.*

On appeal, ACE repeats its comments and attempts to identify various ways in which NDEP erred or abused its discretion in analyzing and responding to the comments on these issues. *See* Pet’n at 74-81. In so doing, however, ACE fails to cite any legal authority that supports its positions. For example, in its arguments on visible emissions inspections, ACE claims that NDEP did not respond adequately to its comments, but it provides no plausible basis whatsoever, in fact or in law, for us to question the Division’s treatment of this matter in its response to comments.¹⁹ In its arguments on stack testing, ACE cites a recent *Federal Register* notice for the proposition that a permitting authority may not rely on the Title V permit “to add conditions that are not included in the PSD permit.” Pet’n at 58, 80 (citing 69 Fed. Reg. 3202 (Jan. 22, 2004)). That is a misreading of the notice, however;

¹⁹ By contrast, NDEP supplies us with guidance from EPA Region V on the relationship between particulate matter and opacity, which states:

EPA and the states use opacity as a convenient surrogate for assessing mass emissions, as a means to assure effective particulate emissions control. * * * Stack tests for measuring the mass of emissions take extensive planning and cannot affordably be done very often. In contrast, opacity measurements can reasonably occur much more frequently, either continuously by instrumentation or on a regular basis by a human observer.

Consequently, opacity measurements provide a cheaper means of getting much more frequent information on the effectiveness of a source’s emission control. * * * The goal is low mass emissions. But high opacity is easier to detect than high mass emissions.

U.S. EPA Region V, *Particulate Matter and Opacity* (undated), available at <http://www.epa.gov/region5/air/naaqs/opacity.htm> (quoted in NDEP Resp. at 71).

Title V permitting authorities plainly have authority to impose periodic monitoring requirements as needed to ensure compliance with emissions limits.²⁰ Finally, in its arguments on the O&M question, ACE attempts to support its arguments using a letter from EPA Region V to the State of Ohio regarding Ohio's Title V program, Pet'n at 81 & Ex. 39, but the letter merely provides Region V's opinion that it is inappropriate to rely on a manufacturer's specifications in a Title V operating permit without describing those specifications in detail. The letter is easily distinguishable as inapplicable in this PSD context.

As a general matter, we routinely decline to remand permits in situations where a petitioner simply reasserts its original viewpoints without demonstrating any reasoned basis in fact or law for a finding of

²⁰ As we recently explained in a Title V case:

Title V contemplates a permit program that incorporates and ensures compliance with the substantive emission limitations established under other provisions of the Act, but that does not independently establish its own emission standards. * * * However, where the applicable underlying standard does not include "periodic" monitoring, Title V permitting authorities generally may impose monitoring and recordkeeping requirements as necessary to assure a facility's compliance with applicable requirements.

In re Peabody W. Coal Co., CAA Appeal No. 04-01, slip op. at 8 (EAB Feb. 18, 2005), 12 E.A.D. __ (citations and footnote omitted). Indeed, regulations governing both state and federal Title V programs specifically provide that each Title V permit must contain "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit * * *." 40 C.F.R. § 71.6(a)(3)(i)(B) (federal Title V operating permit program regulations); 40 C.F.R. § 70.6(a)(3)(B) (state Title V operating permit program regulations). EPA has also promulgated a "compliance assurance monitoring" or "CAM" rule that provides for inclusion of adequate monitoring provisions in certain Title V permits. *See* 40 C.F.R. pt. 64 (CAM rule).

The *Federal Register* notice cited by ACE does nothing to change this state of affairs. The notice merely clarifies that certain "umbrella monitoring rules" set forth in 40 C.F.R. §§ 70.6(c)(1) and 71.6(c)(1) do not establish separate regulatory bases for requiring new forms of monitoring in Title V permits. *See* 69 Fed. Reg. 3202, 3203-04 (Jan. 22, 2004) (distinguishing periodic monitoring and CAM rules from umbrella monitoring rules).

clear error, abuse of discretion, or other grounds for a remand of a permitting decision. *See, e.g., In re Zion Energy, L.L.C.*, 9 E.A.D. 701, 707 (EAB 2001); *In re Sutter Power Plant*, 8 E.A.D. 680, 687 (EAB 1999). ACE's appeal provides no legitimate basis for us to second-guess NDEP on these matters. *Cf. In re Peabody W. Coal Co.*, CAA Appeal No. 04-01, slip op. at 39-41 (EAB Feb. 18, 2005), 12 E.A.D. __ (denying review where petitioner failed to carry heavy burden of demonstrating clear error in permit issuer's technical analysis of appropriate monitoring requirements). Review is denied on this ground.

7. Recordkeeping and Reporting Requirements

Finally, ACE claims that NDEP erred in its response to a number of criticisms ACE submitted on the recordkeeping and reporting provisions of the draft permit. Pet'n at 89-90. ACE had challenged, among other things, the use of annual reporting requirements as insufficient to ensure prompt enforcement of permit violations by citizens and NDEP. *See* ACE Comments at 98-99. ACE also claimed that the permit lacked recordkeeping requirements for emissions of PM/PM₁₀, SO₂, NO_x, CO, and VOCs from the diesel firewater pump and of VOCs and opacity from fuel storage areas. *See id.* NDEP noted ACE's comments and asserted that the permit's "extensive" recordkeeping and reporting requirements included all the necessary components to ensure compliance with emissions limits. RTC at ACE-63.

Now, ACE repeats its comments on appeal, including its charge that annual reporting measures are "clearly not sufficient to ensure enforceability." Pet'n at 89-90. In so doing, ACE cites no statutory or regulatory authority or case law to support any of its positions. Instead, ACE merely expresses its opinion that the permit should be remanded due to NDEP's purportedly "legally inconsistent" response to its comments. *Id.* at 89. We are unaware of the existence of any laws or other legal requirements that mandate the type of recordkeeping and reporting ACE believes must be included in the TS Permit, and ACE has not identified any such legal requirements for us. In such circumstances, we have no basis to remand the permit for reconsideration by NDEP. *Cf. Peabody W. Coal*, slip op. at 39-41, 12 E.A.D. __ (denying review of monitoring and recordkeeping provisions where petitioner provided

insufficient basis for Board to question permit issuer's technical conclusions in this regard). Review is denied on this ground.

III. CONCLUSION

For the foregoing reasons, the petition for review of NNEI's PSD Permit No. AP4911-1349 for the TS Power Plant is denied. In accordance with 40 C.F.R. § 124.19(f)(2), the Regional Administrator of EPA Region IX, or his delegatee in Nevada, shall promptly publish in the *Federal Register* a notice of this final agency action.

So ordered.